

AMERICAN FABRICS



Number Six • 1948 • Three Dollars a Copy

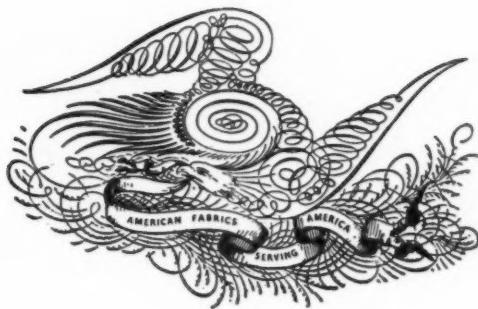


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STYLE



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the finest woolens in the world

FORSTMANN WOOLEN COMPANY
PASSAIC, N.J.



American Fabrics

*. . . dedicated to the belief that Fashion begins with the Fabric . . .
that the American textile industry casts a major influence on the
economic and social aspects of the world in which we live . . . that
American textiledom has deservedly attained the world's pinnacle
from which it can never be dislodged. To all who work within or
with the industry this sixth volume of American Fabrics, giving
special editorial attention to two of the great natural fibers, Silk and
Wool, is offered as a measure of help, of service . . .
and, we hope, of inspiration.*

American Fabrics is published quarterly by Reporter Publications, Incorporated, who are the publishers of Men's Reporter, Women's Reporter, Canadian Reporter, Canadian Women's Reporter, National Gold Book Directory, the British Gold Book and Excellence.

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AMERICAN FABRICS, Empire State Bldg., New York 1, New York

Number Six

2nd Quarter 1948



Fashion Begins with the Fabric

American Fabrics

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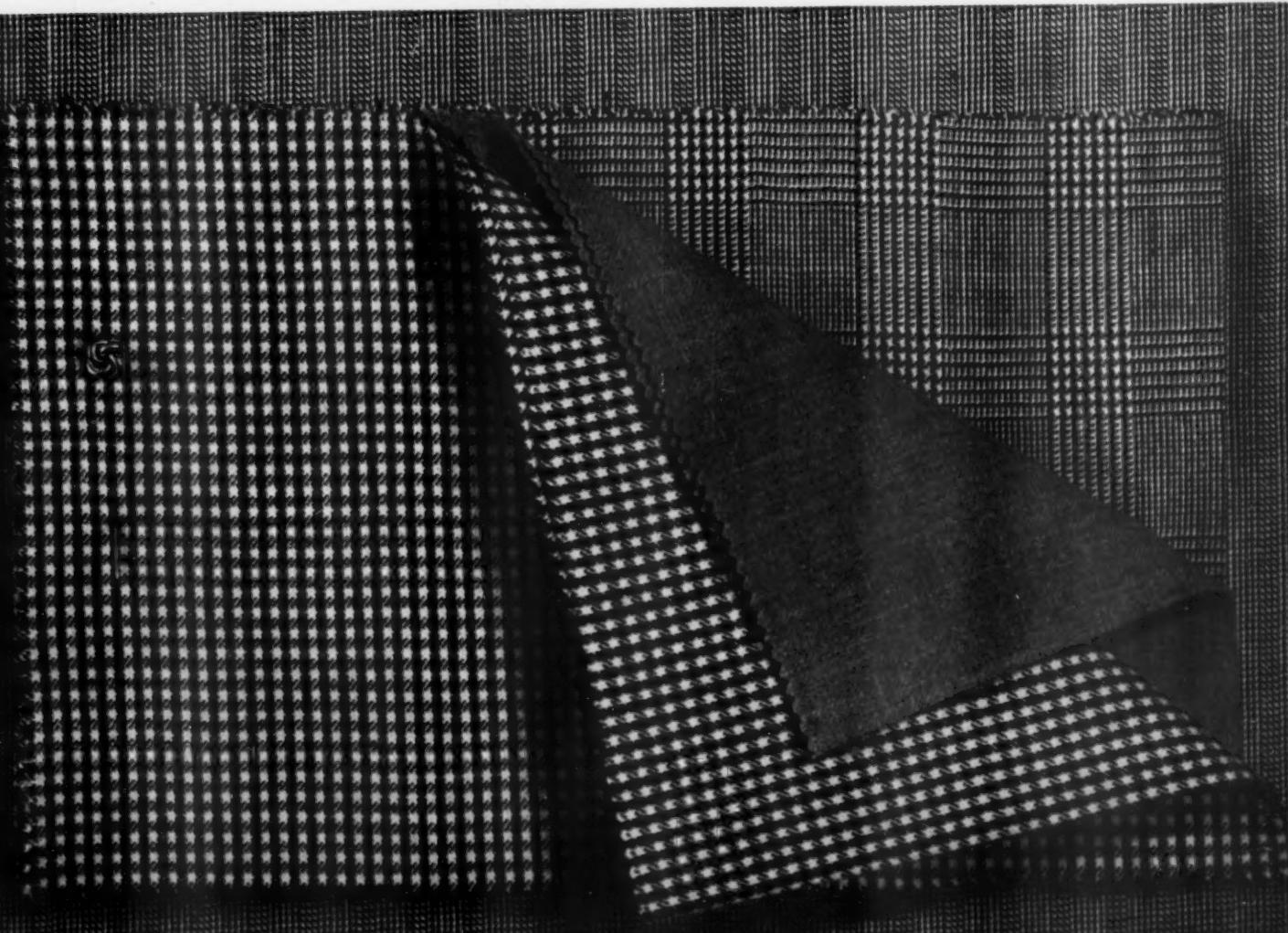
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Milliken Worsteds - 100% Virgin Wool



Deering Milliken & Co., Inc., 240 Church St. New York 13, N. Y.
Woolen Sales Office, 450 Seventh Ave., New York 1, N. Y.



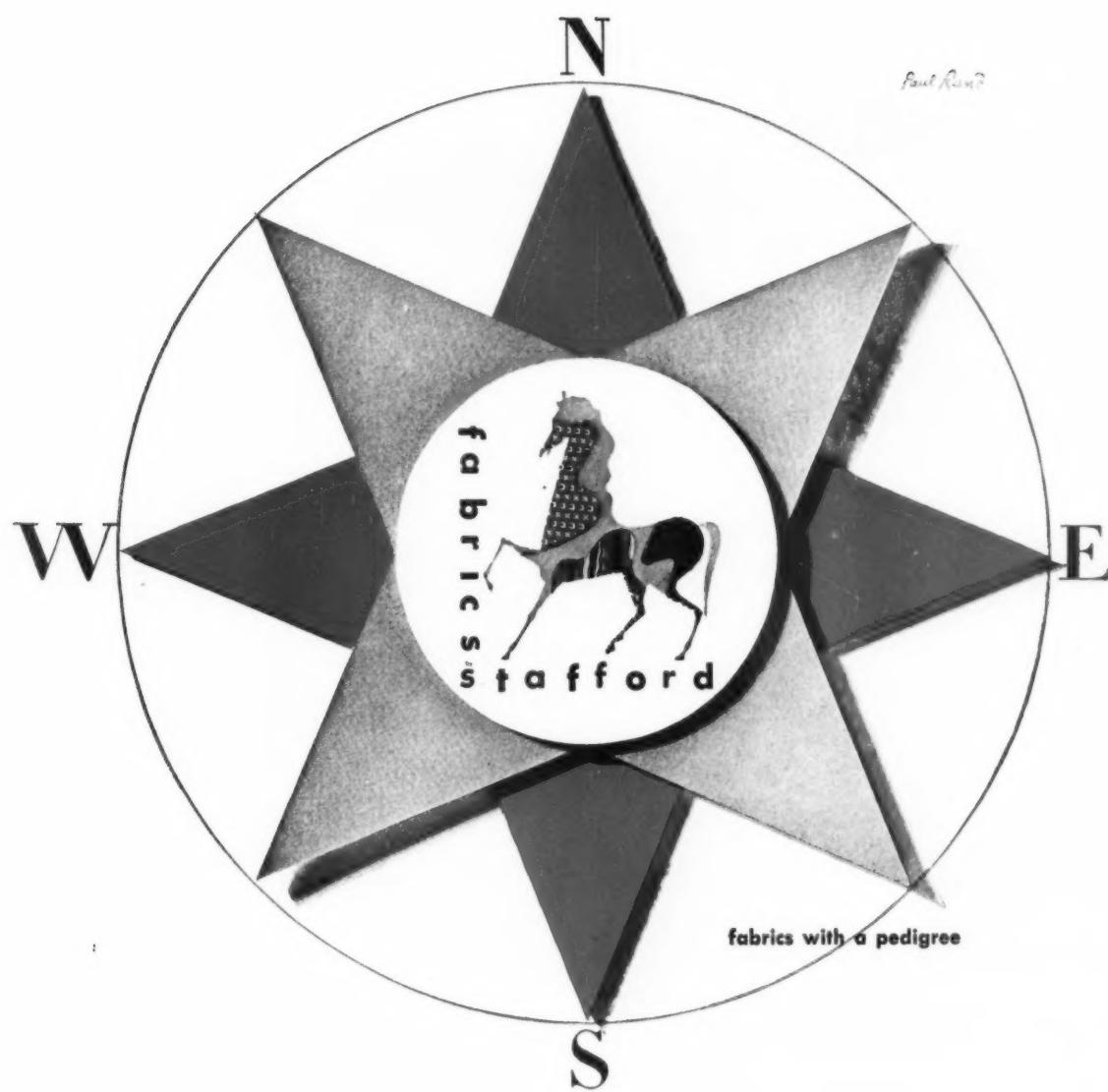


Designed by Hattie Carnegie
in natural worsted Kashmira

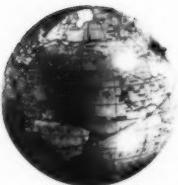
Juilliard
100% VIRGIN WOOL

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"Fine fabrics are the foundation of fashion"



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or abroad... the Stafford Stallion is a sure and faithful guide
to all those who make quality their goal. This honored mark points unerringly
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Stafford fabrics are loomed in the Pennsylvania hills
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A black and white fashion advertisement. A woman stands in a doorway, facing right. She wears a light-colored, double-breasted coat over a dark dress, and a patterned hat. Her hands are on her hips. To her right is a dark curtain. In the upper right corner, there is a circular logo with the word "foreman" at the top and "famous for fine fabrics" at the bottom, with a stylized letter "f" in the center.

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A crisp rayon Shantung in the most magnificent array of exciting new colors.

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foreman fabrics corporation, 1412 Broadway, New York 18

Hat by Sally Victor

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Designers and manufacturers esteem
wonderful Worumbo Woolens for their
ready response to the tailor's art
... and the ready response their
customers make to such fabric perfection!



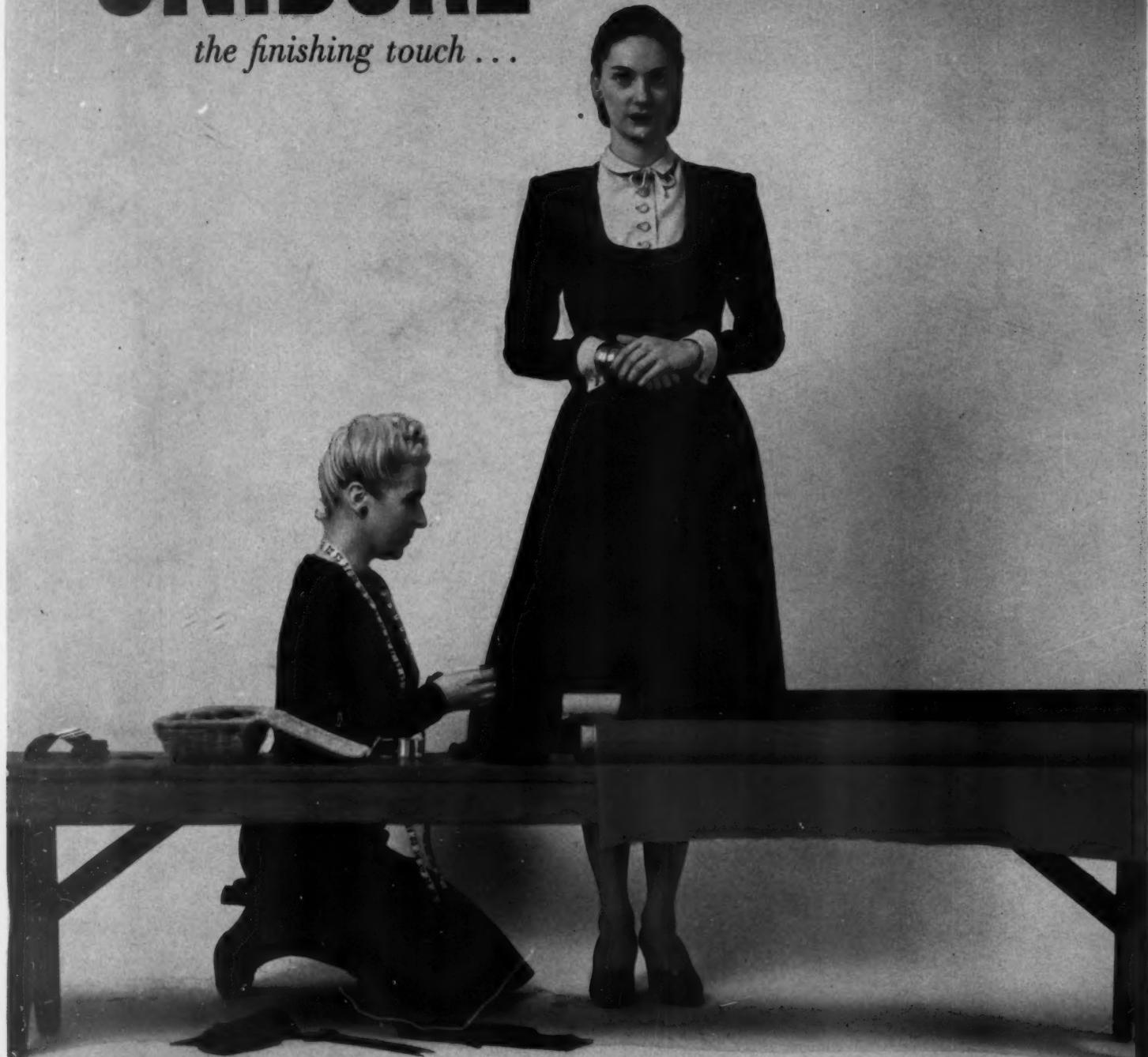
Her hat, a "Madcap"

 **Worumbo**
Fabric Perfection Since 1865

51 Madison Avenue, New York 10, N. Y. • Mills: Lisbon Falls, Maine

UNIDURE*

the finishing touch . . .

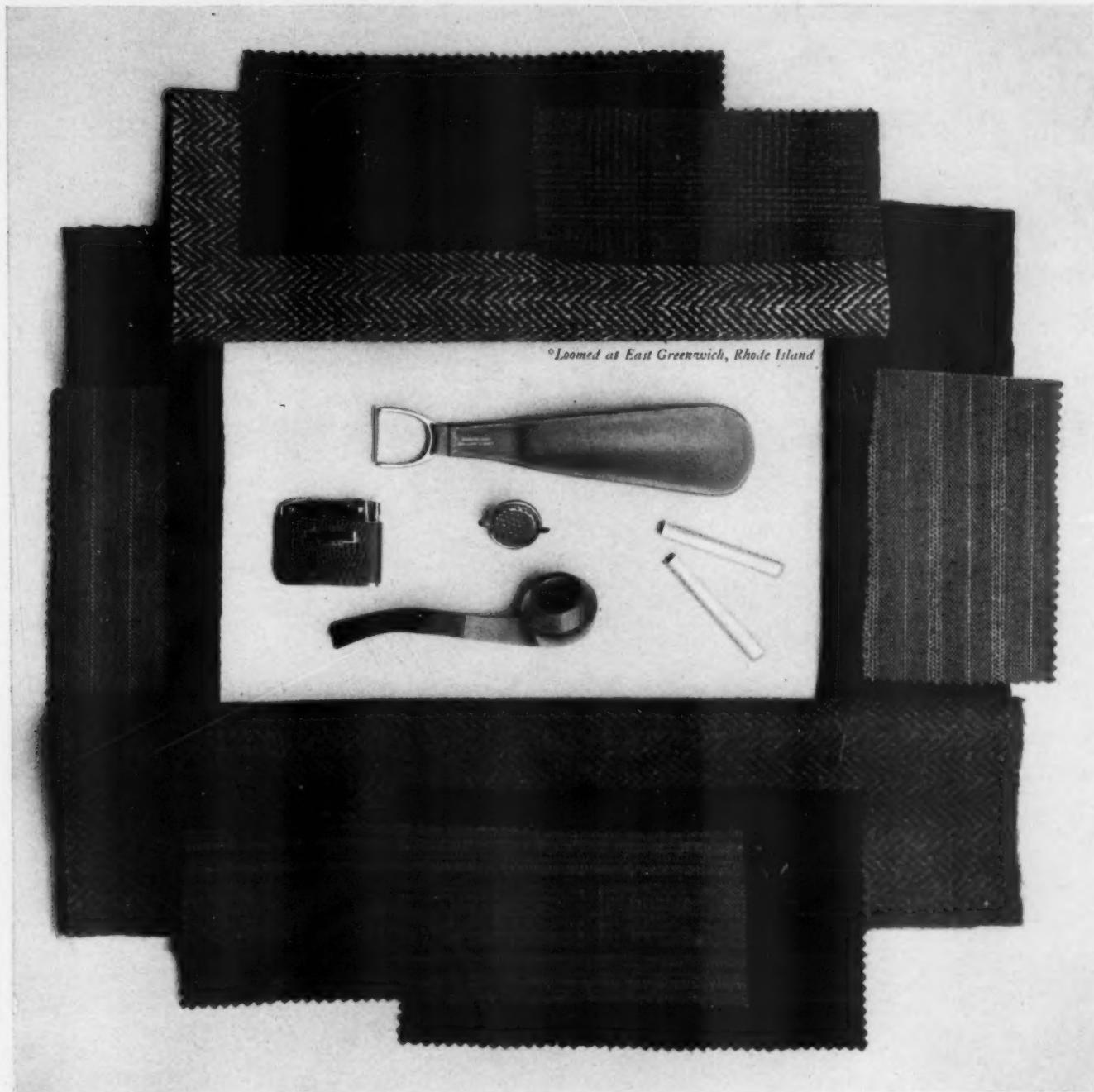


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*T.M. REG.



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woolens of beauty, quality and lasting wear. **H O C K A N U M**
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women's wear, neckties and upholstery.
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or streaking for the life of
the garment. Vogue Patterns—
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**then scheme
your way
to classic
smartness
that's
never dated.**

Shirley Fabrics Corp.

1400 Broadway, N. Y. 18

Shirley Fabrics

SHOES BY EVINS. HAT BY WALTER FLORELL

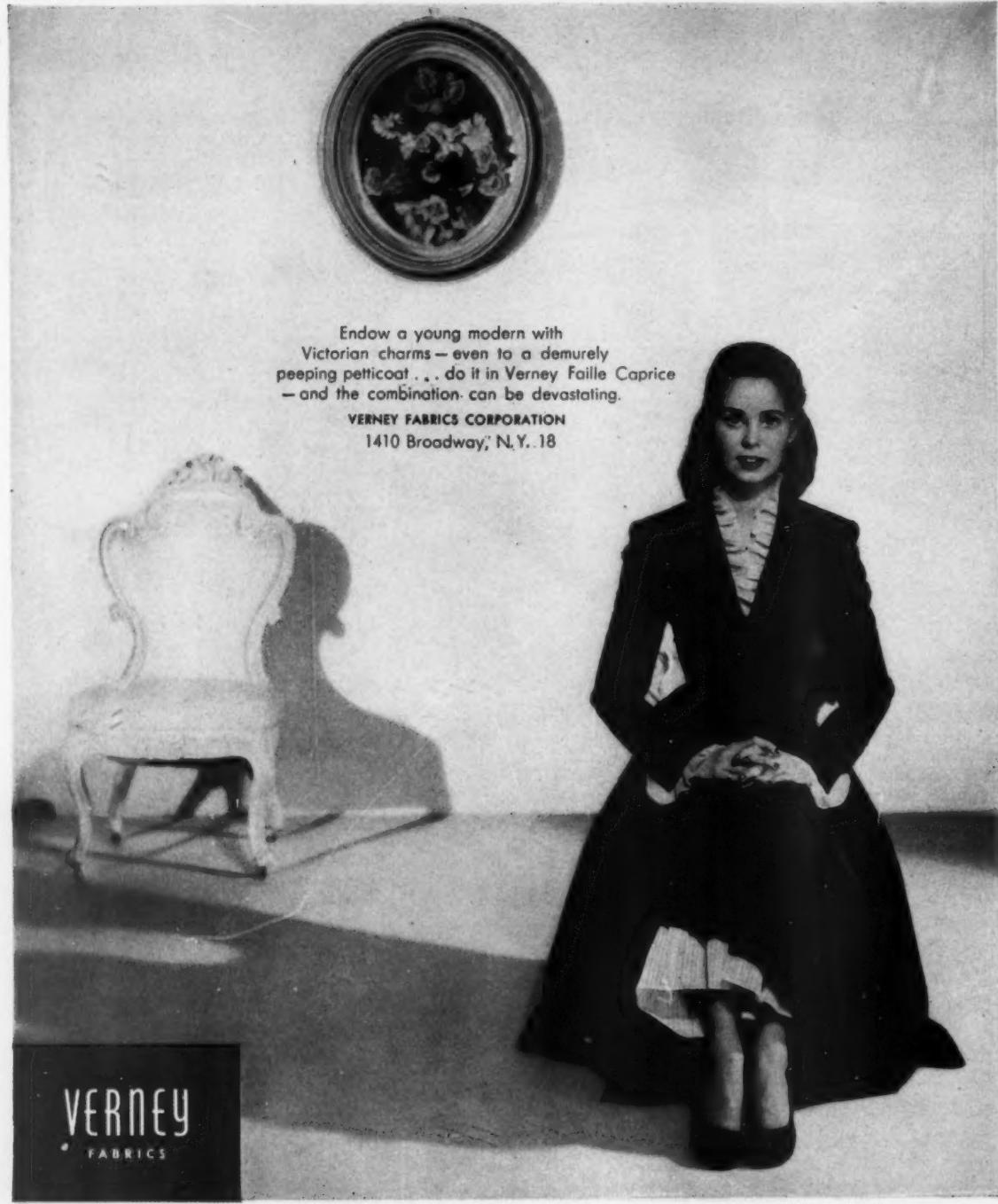
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PAUL D'OME

DRESS BY JUDY 'N JILL



Endow a young modern with
Victorian charms — even to a demurely
peeping petticoat . . . do it in Verney Faille Caprice
— and the combination can be devastating.

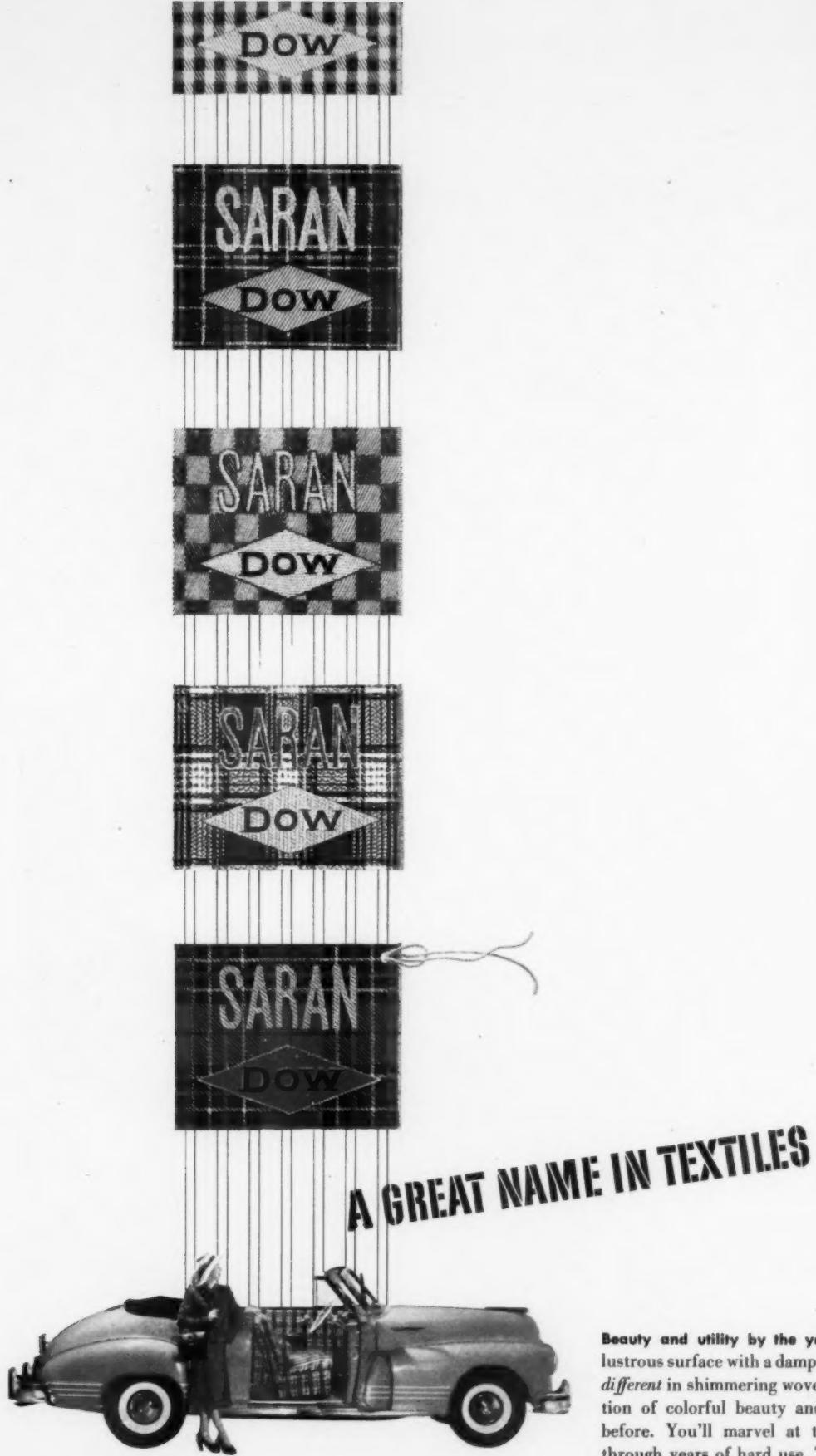
VERNEY FABRICS CORPORATION
1410 Broadway, N.Y. 18



*T.M. Reg.

*Woven of Celanese® rayon yarn

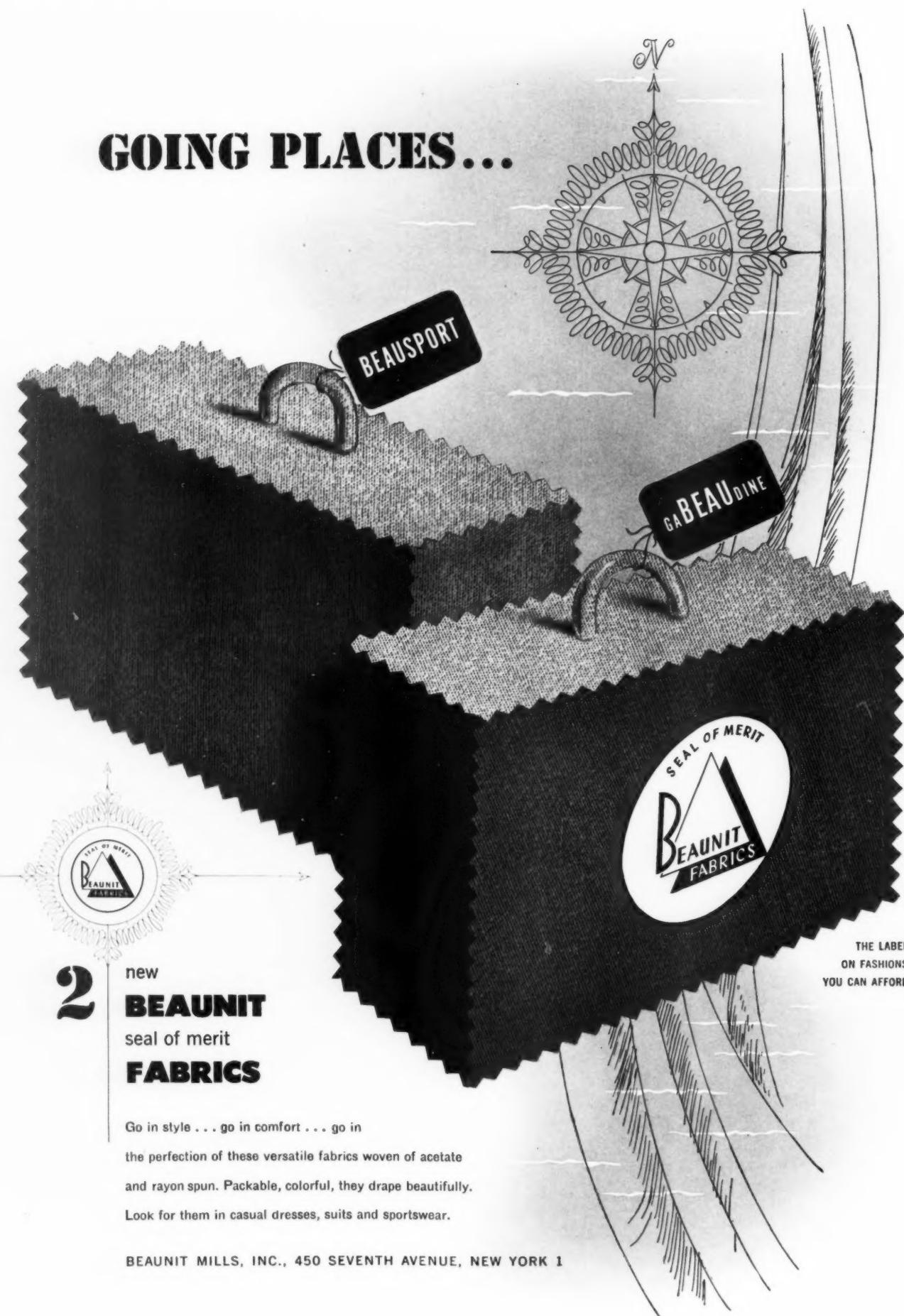
faille *Caprice** by Verney



Beauty and utility by the yard. Dirt and stains whisk off its lustrous surface with a damp cloth. Saran—something *basically different* in shimmering woven textiles—brings you a combination of colorful beauty and pliant strength never available before. You'll marvel at the way Saran fabrics stay new through years of hard use. Their fibers can't absorb grime or moisture. Their smooth surfaces can't scuff or grow threadbare. Brilliant colors are *built-in*. That's why you're seeing Saran—fabricated by leading textile mills—in automobile seat covers, furniture upholstery, luggage, and public seating. That's why the Saran label stands for beauty that can "take it"!

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Go in style . . . go in comfort . . . go in
the perfection of these versatile fabrics woven of acetate
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Look for them in casual dresses, suits and sportswear.

BEAUNIT MILLS, INC., 450 SEVENTH AVENUE, NEW YORK 1



As seen in VOGUE Pattern Book, April-May Issue

Hafner's

*imported
Swiss
organdy*



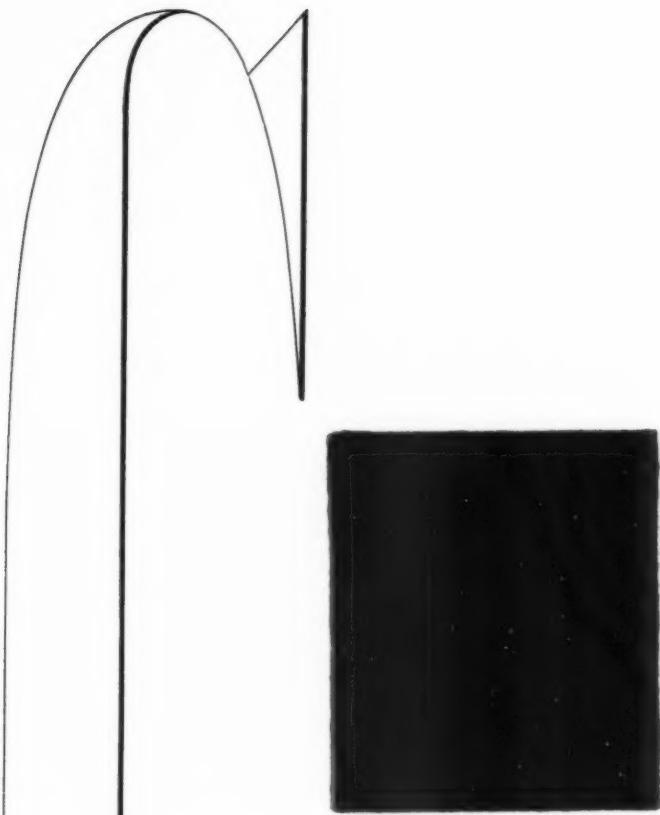
ANOTHER FABRIC UNMISTAKABLY HAFNER. RAINBOW COLORS AND TEXTURE AT ONCE.
CRISP YET SILK-LIKE, THIS ORGANDY IS FOR THE DELIGHT OF THE DISCRIMINATING.
BY THE YARD, AND IN EXCLUSIVE DESIGNER CREATIONS.

PHOTOGRAPHED BY PAUL STINE

Jennifer
DESIGN



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for made-to-order,
ready-to-wear
and by-the-yard.



Most Compelling In Beauty

Most Rewarding In Quality

Most Certain of Demand

When the Print Is

designed by Lee Sherman

Frankly Fabrics, 1441 Broadway, New York 18

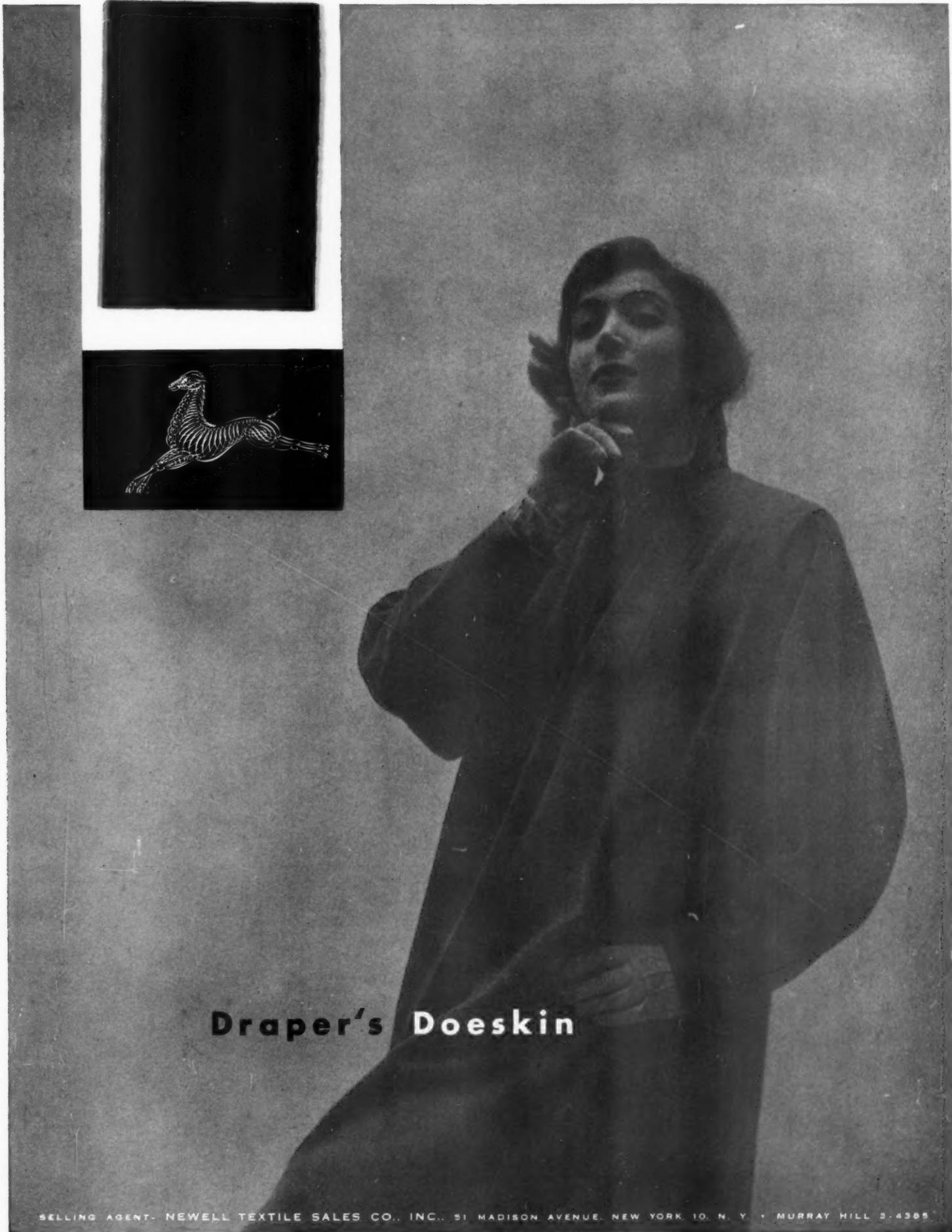


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Subtle "Cotillion Colors" in —

 **Hammer-mill Godey^{*}
Crepe**

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SELLING AGENT - NEWELL TEXTILE SALES CO., INC., 51 MADISON AVENUE, NEW YORK 10, N. Y. • MURRAY HILL 3-4385



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a repertoire of glorious design

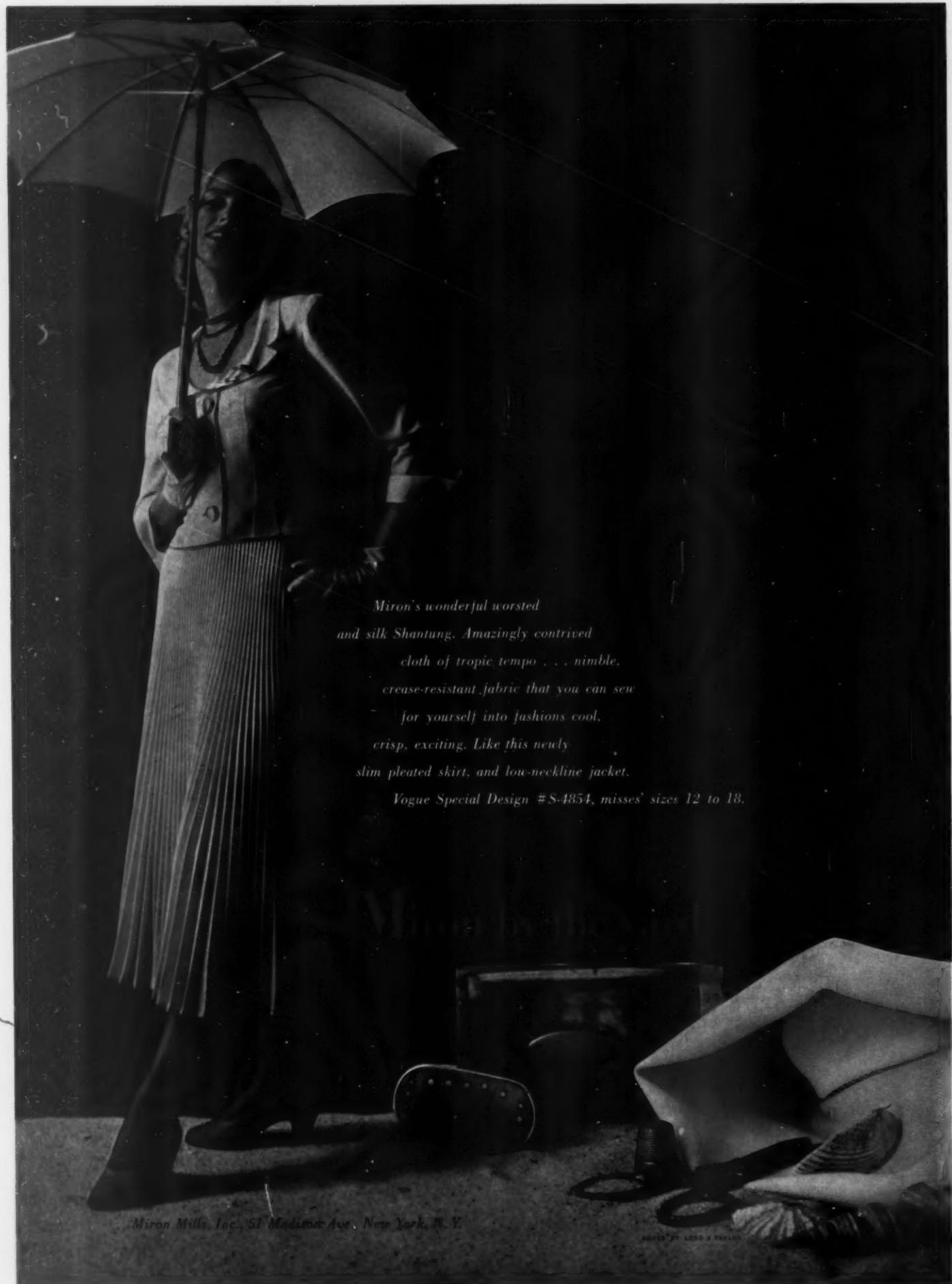


"*Stotter, Inc.* 1441 Broadway, New York 18, N.Y.

the fashion choice of America's leading couturiers
... a preference in better fabric departments



reg. opp. for



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and silk Shantung. Amazingly contrived
cloth of tropic tempo . . . nimble,
crease-resistant fabric that you can sew
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MADE BY LONG & TAYLOR

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A new-day fashion medium tuned to American living.***



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. . . and the canny Scots would have approved the handsome, hard-hitting, long-driving performance that Dorset fabrics are giving on the green . . . in the clubhouse . . . wherever men relax. Equally canny, leading makers know that a fine brand name must shoot for no less than a birdie . . . they choose Dorset fabrics.

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*Reg. T. M.

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FOR RAINCOATS
SUITS AND SLACKS



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FOR SLACKS



FOR SUITS AND SLACKS

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half
a century
of
extra value
at no
extra cost*

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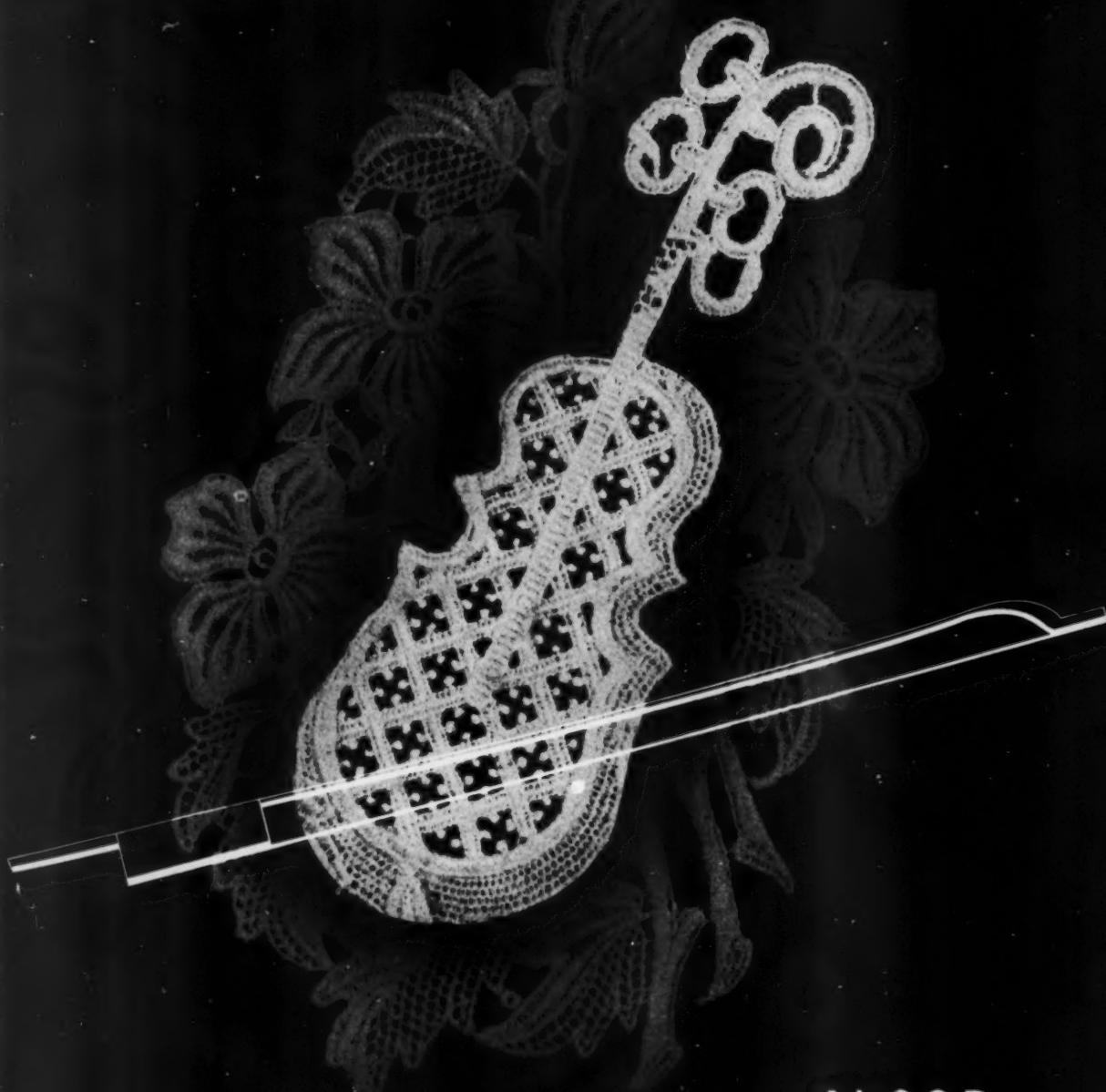
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in the spring, tra la
...and summer, too!
the one...and only*

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with "promise of merry sunshine"...woven into the cool, crisp linen-like texture.
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At stores everywhere you'll see how wonderfully COHAMA BURLEY transforms
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A division of United Merchants
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...for designers,

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the thoroughbred worsted of incredible life-span
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Suit designed by Swansdown

KANMAK



Souvenir Photo
by John Frederic, Jewel by Joseph

Blouse: Vogue Pattern No. 6260. Skirt: Vogue Pattern No. 6231

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IN PATIO COLORS

*T. M. Reg. U. S. Pat. Off.

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for a variety of morning, daytime and
evening wear, and are ready-to-wear or
by the yard. Available, now, coordinated
fabrics in contemporary designs
which fit your particular department
store needs throughout the country.

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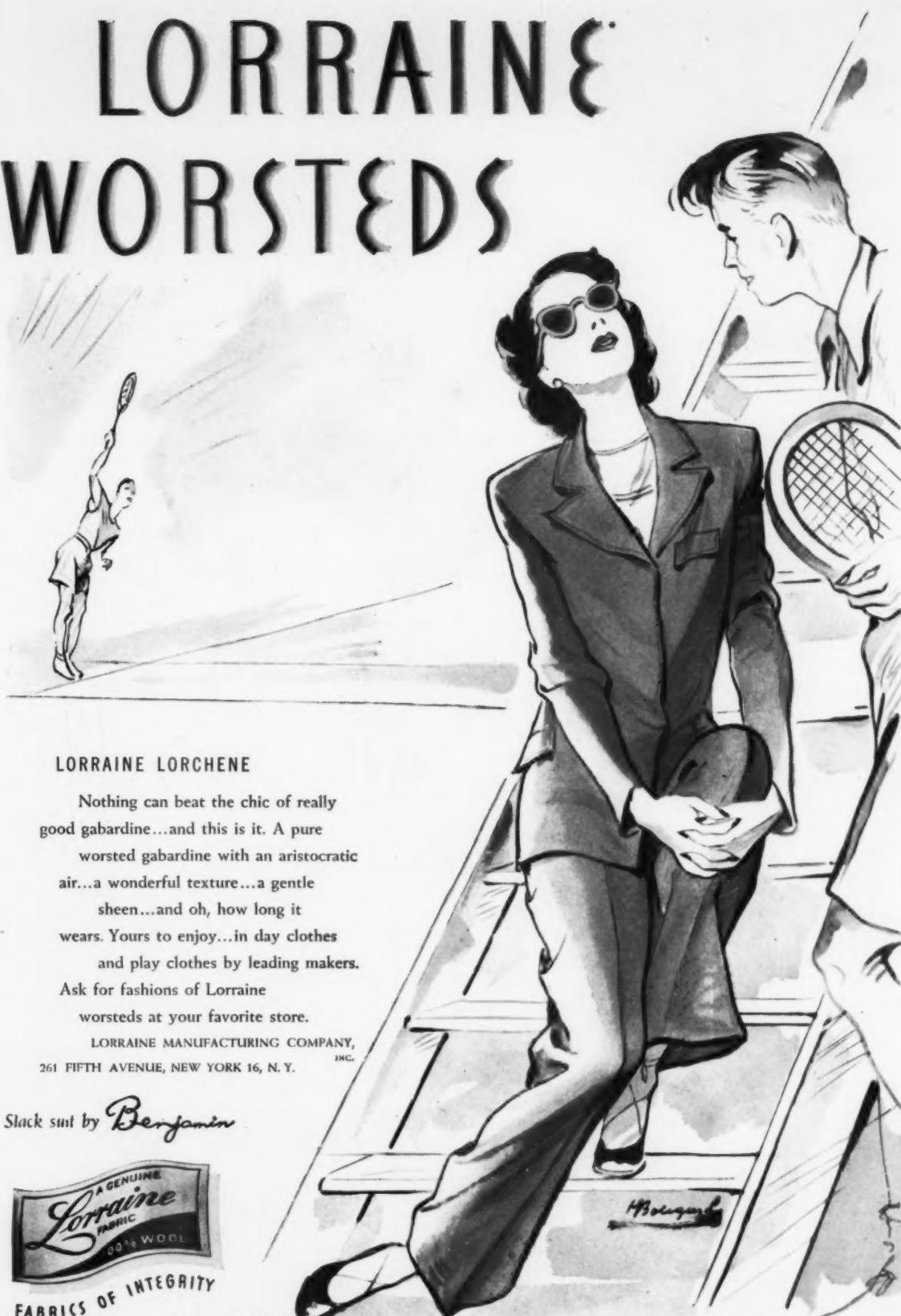


Just as the center is the heart of
the flower, so, too, is the fabric
the heart of fashion. The "K"
symbol is your assurance of the
ultimate in prints of inspiring
beauty...colors of infinite charm.

KLEIN FABRICS CORPORATION

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INC.
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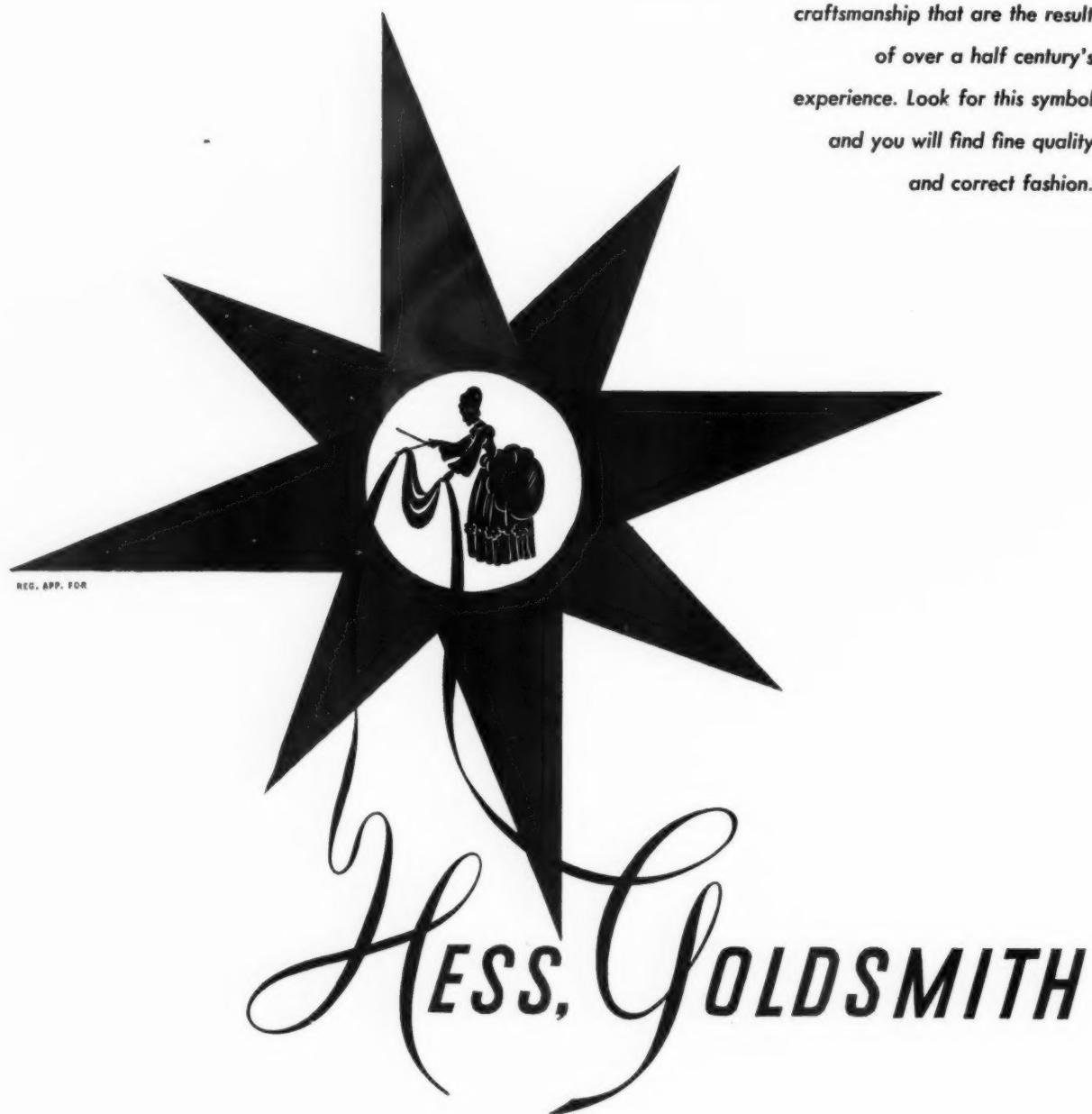
Slack suit by *Benjamin*



as
appearing
in
the
April
issue

of
MADEMOISELLE

Proudly we present our trade mark
in modern dress, symbolizing
standards of weaving and designing
craftsmanship that are the result
of over a half century's
experience. Look for this symbol
and you will find fine quality
and correct fashion.

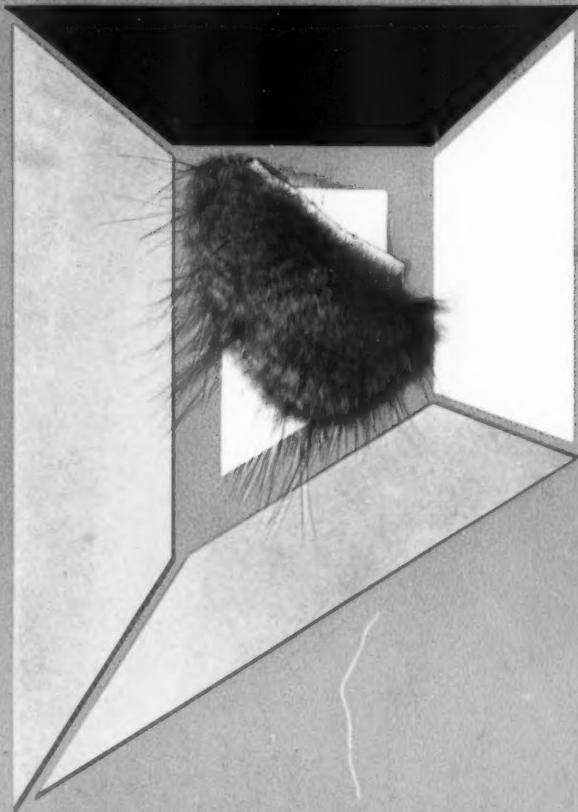


HESS, GOLDSMITH & CO., INC., 1400 BROADWAY, NEW YORK 18, N. Y.

fur in fabric

the revolutionary "new dimension"

in textiles



Precious fur, the world's oldest natural fiber, has now become the new dimension in textiles. It provides a basic stimulus to help textiles and related products compete with other industries in the years ahead.

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made by

Stein-Tobler Co.



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inaugurate a dramatic new concept
in the creation of superb quality Textiles
for specialized fashion requirements.

Introducing:

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Satins and Grosgrains for Men's formal wear facings.
Jacquard Novelties in original designs and weavings.
Also distinctive Satins and Failles.



Drama Fabrics . . Division of David Tartikoff, Inc., 470 Fourth Avenue, New York 16, N. Y.

make this test yourself!

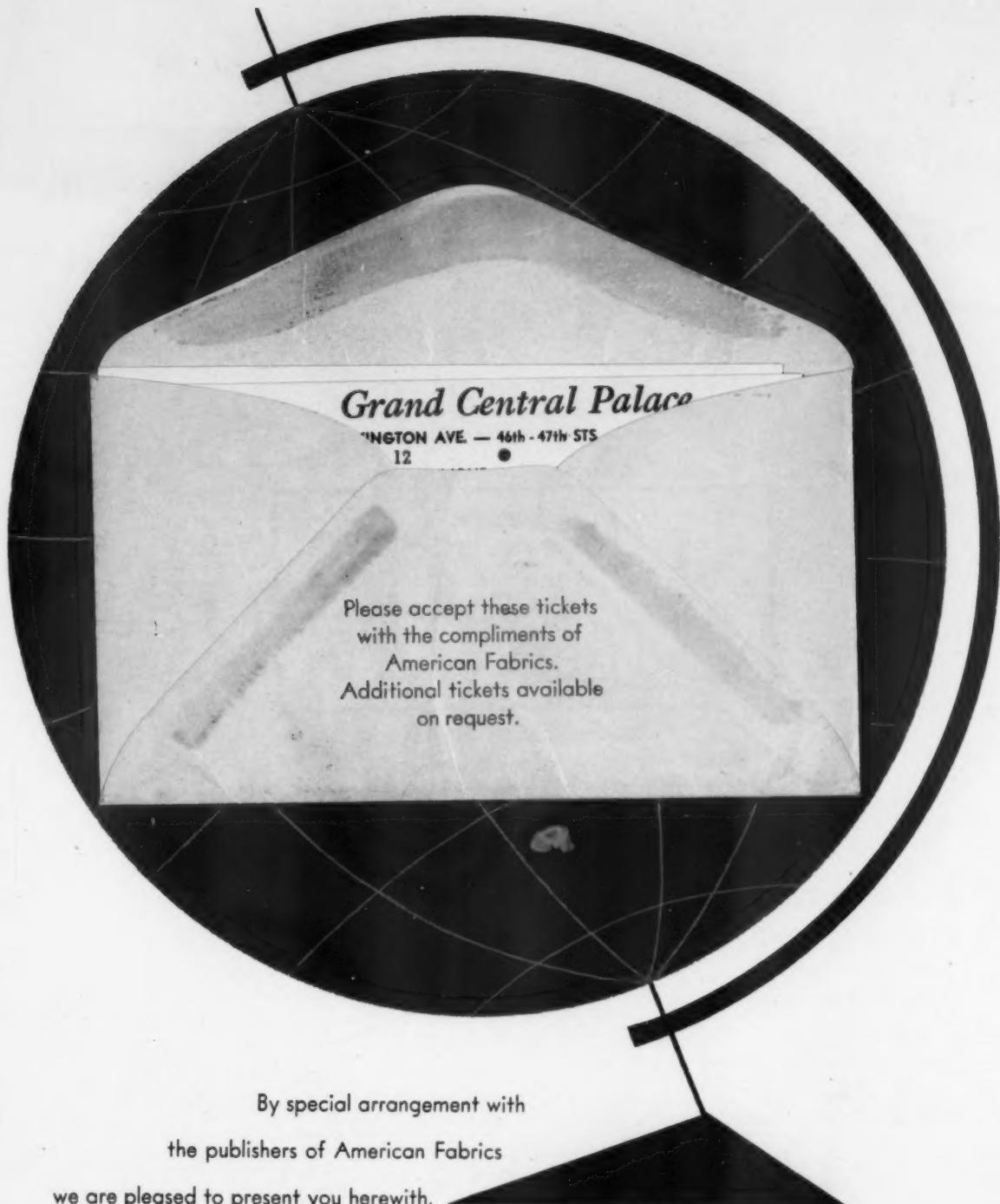
Take ARMO® HAIR CANVAS in your hand . . . crush it! Now . . . see how it springs back into shape, how amazingly resilient it is! Think of what this interfacing can mean to your garment in unfailing shape retention. You're holding QUALITY in your hand . . . watch it rebound to the credit of your product and your reputation!



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Grand Central Palace, New York

June 7 to 12, 1948

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new broadened group of
" "

"Everglaze"

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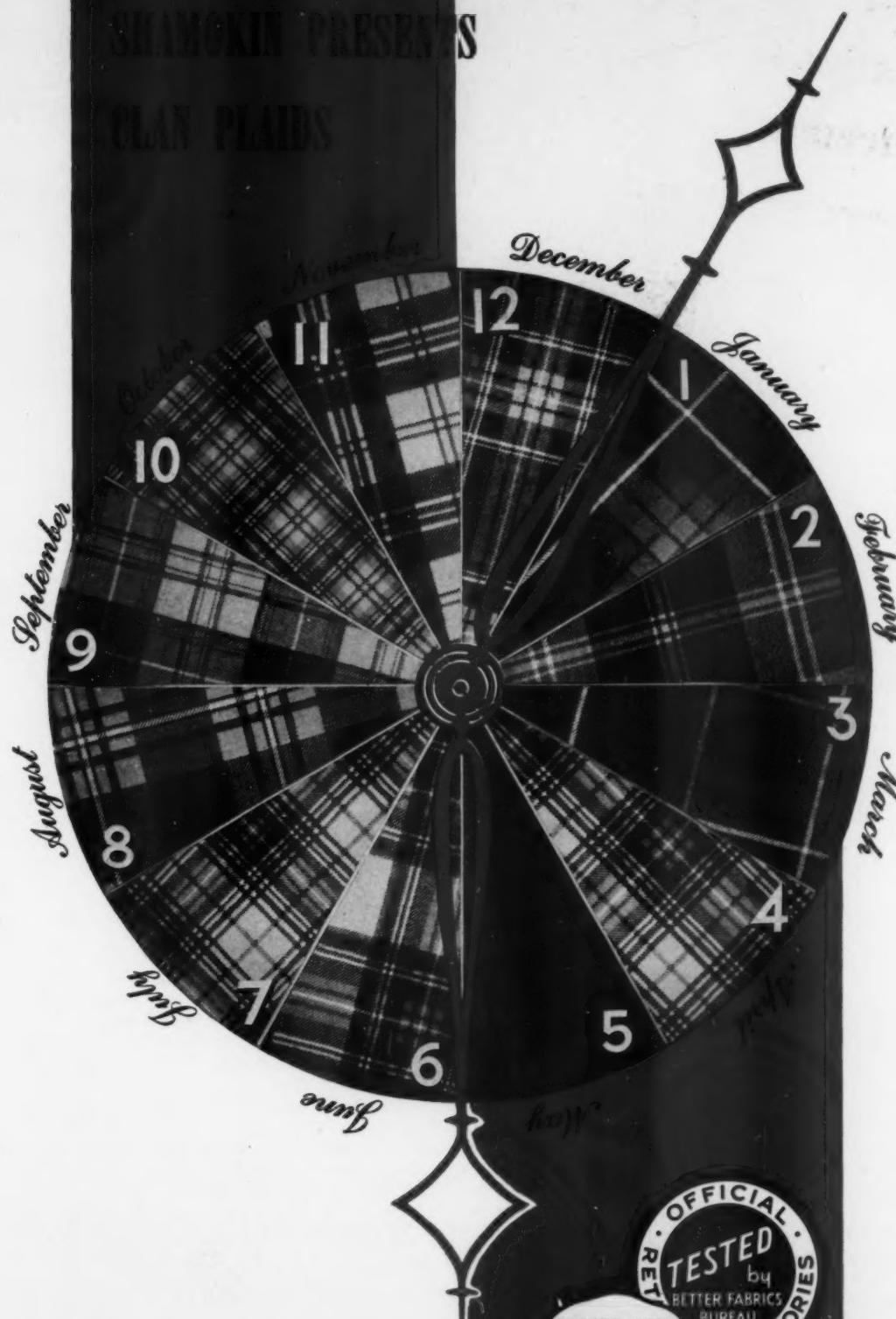
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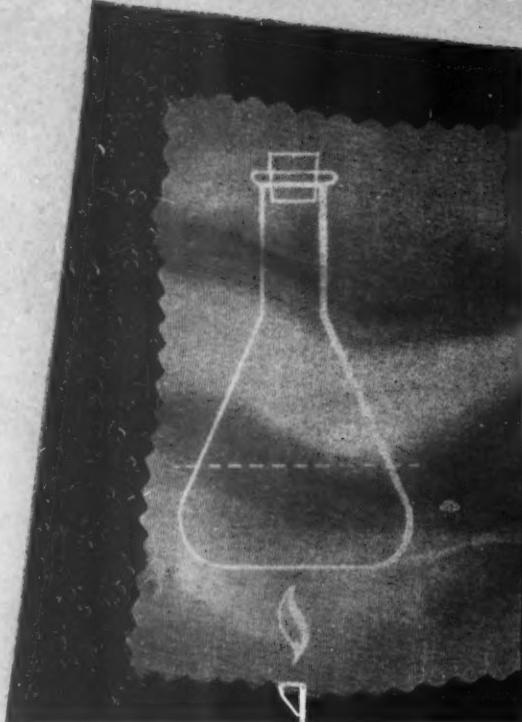
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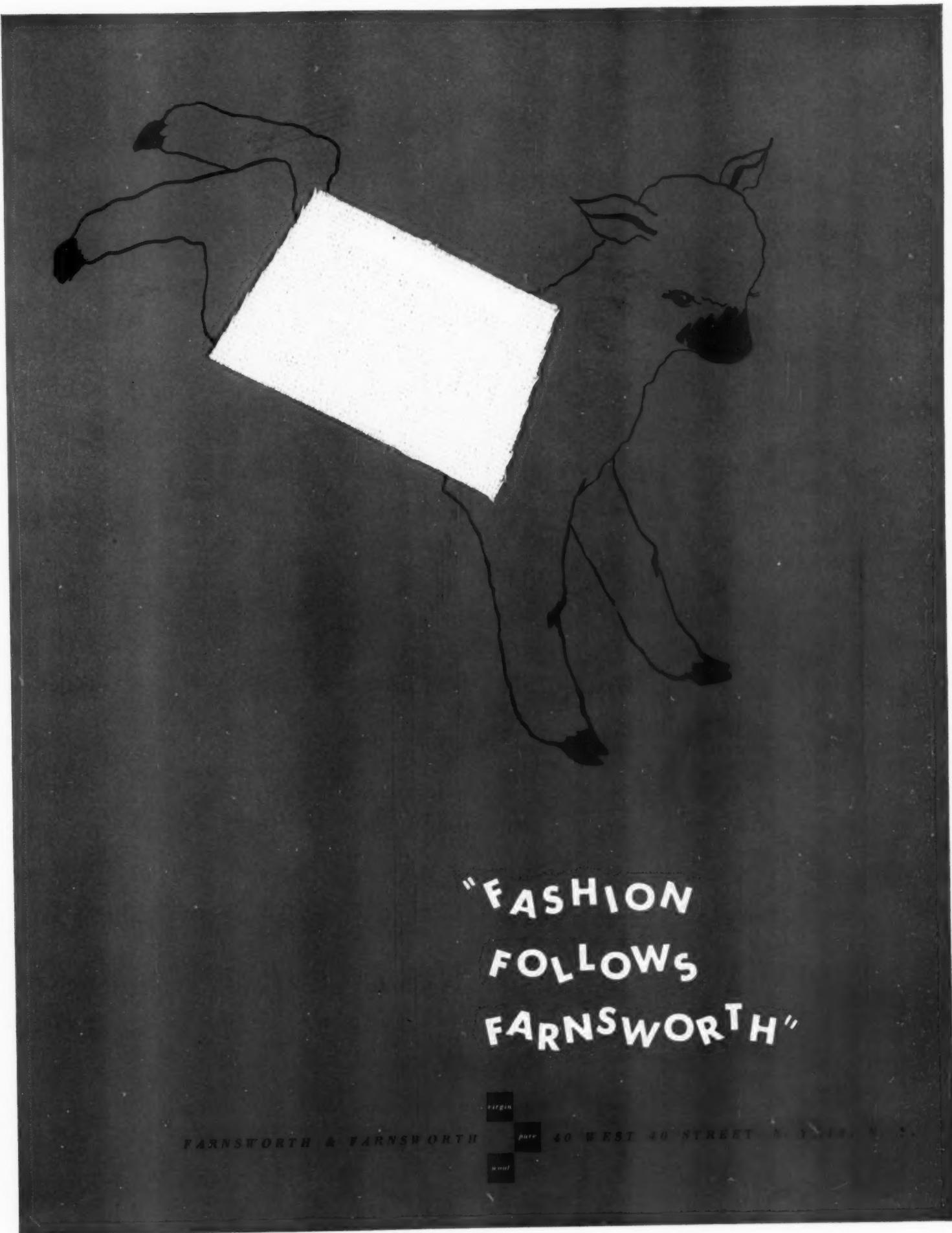
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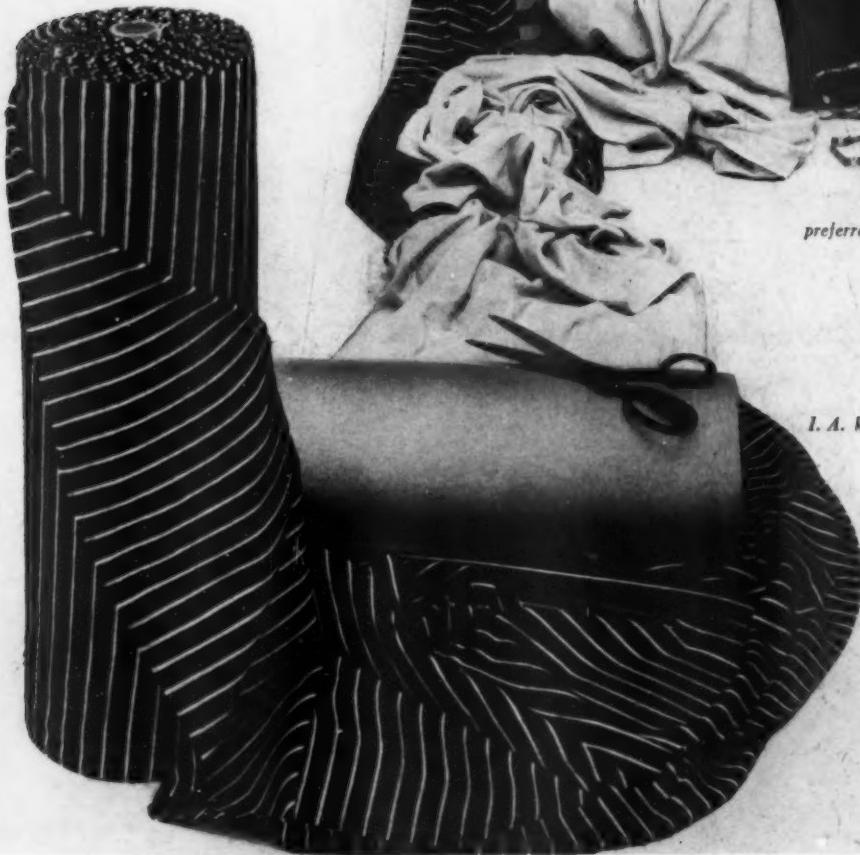
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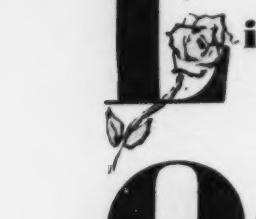
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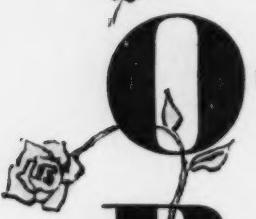
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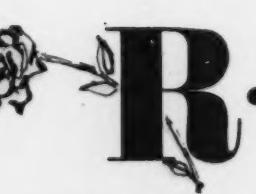
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AMERICAN FABRICS

NUMBER SIX • 1948 • THREE DOLLARS A COPY



THE STORY OF SILK

In a parked auto, under a silver dollar moon, the romantic adolescent murmurs to his date, "Darling, your hair is as soft as silk."

"How's the family, Jim?" booms the department store tycoon, and the flattered buyer answers, "Fine as silk, boss!"

"Of course your statement shows that your business deserves a loan for expansion?" queries the banker. "Of course," replies the merchant, "things would run as smooth as silk if we had more capital to expand."

* * *

Figures of speech like "smooth as silk," "soft as silk," "fine as silk," which we accept as part of our everyday life are not based upon idle chatter. They indicate a measurement standard — a standard so fine that it has become a yardstick of superlative description.

The story of silk is an interlocking story of history, economy and sociology. Silk was, in part, responsible for the discovery of America. Columbus' original intent was not to discover a new world, but to discover a northwest passage to India . . . a short cut to oriental silk and spice marts.

Japan rose from a tiny island culture of feudal barons, peasants and fishermen, to a war-dealing power among nations, due in part to her thriving silk industry. Silk, originally the luxury fabric and extravagance of the medieval rich, became the great leveler of castes when produced in quantity and placed within reach of the masses.

The humble silkworm has been the unknown patron saint of the world's great nations. For the development of silk meant in most cases the development of peoples. Merely trace the historical periods of the migration silk, to prove the verity of this statement.

Silk originated in China from whence it spread to Korea and Japan. Then it was carried westward to Persia, Greece, Rome, Italy, France, Spain, Austria, England, and finally, America. In reaching this country, silk climbed to the height of its exploitation.

It served to make us one with the rest of the world, since we became vitally interested in the history, politics, economies, social and artistic developments of silk-producing nations which supplied us with the raw material.

Prior to the war, silk was an institution in this country . . . not an extravagance or luxury . . . but an everyday commodity necessary for our standard of living. How this came about is as fanciful a tale as was ever placed between the covers of a book. Come with us back to the 6th century A.D. . . . about a hundred years after the founding of the Nestorian Order.

The Story Begins . . .

Two monks, members of this religious sect, were grimly shuffling the dust along the caravan route that put distance between Persia and Constantinople (the present Istanbul, Turkey). The rigid haste with which they lifted their leather sanded feet and the constant furtive head-turnings and peering at the distant horizon, told too well that here were fugitives hurrying to safety. The younger religious vigorously planted his bamboo staff in a crevice in order to leap over a rock that barred passage. The elder cried in alarm, "Gently, brother, place your staff gently, lest all our work be undone."

"But Father," expostulated the younger man, "I cannot understand why we must risk our lives for a few worms and mashed up mulberry leaves that we have hidden in these hollow canes. We carry them as if they were tremendous treasures . . . when all they really are, are a few caterpillars and their food."

The elder man paused and after another glimpse over his shoulder to see if they were being pursued, said, "Those worms are a treasure far beyond the fabulous jewels of Ophir or the philosopher's stone. These 'caterpillars' as you call them, will make nations prosper and become powerful beyond measure. And it shall wreck others . . . be it God's will. Let us rest, brother, and I will unravel the mysteries of the Great Worm for you."

They paused under a dusty cypress tree and the younger grinned: "Proceed with your story, Father, I am all ears."

The elder man groaned as he relieved himself of his pack and wryly commented, "Sometimes I believe so . . . and you might add a bit of tongue for accuracy sake. Pass me the bottle and I will exchange the gossip of history for it. . . .

You know that prior to the reign of our Lord Justinian, who has made Byzantium the nucleus of world trade, this silken fabric (the germs of which we carry in our hollowed staves) had fallen into ill repute and to usage only among the iconoclasts, due to the greed of certain other fabric factors who spread evil stories about this wonderful fabric so that their own trade might flourish the more by lack of competition.

"Our Lord, the Emperor, changed all this, nullifying existing bans and encouraging the weaving of silken cloths in his own palace. He has made treaties with the Hindus and Persians and Chians which give him exclusive traffic in silks from the East. These have given much work and profit to the lower orders of our country and have increased the swelling of the coffers of the rulers and the church. Our Emperor has shown that the canards foisted upon silk as a witch's cloth were devilish lies promoted by those who trade in other stuffs. Timaeus, the worthy head of our order, has shown that this is a most Christian fabric, tho' invented by the Chians, since it is mentioned in the Bible. Ezekiel the Babylonian prophet calls the gauzy stuff 'Meshi' (*ed. note: from which our English word Mesh*) and Amos mentions it as 'Dmeshak' which our worthy abbot says is merely 'Dimaks' (Damascus).

"But Justinian's problems were not so easily solved by overcoming prejudices at home and by obtaining trade cartels. He has been plagued by the obstinacy of the black Christian prince of Abyssinia who stubbornly refuses to let the silk caravans from Persia be diverted from his territory. This journey makes the





The adventure of two monks, 1000 or more years ago, leads to this modern American fabric — a pure silk jacquard shantung by Hafner.

The Story of Silk (continued)

stuff horribly costly, what with the expense of travel, imposts and the hazards of robbers. Since our Lord cannot sway the Ethiope, he is determined to raise his own silk and so foil the black malefactor who would hold back progress."

The younger man drowsily licked a few crumbs of cheese from his sweat-beaded mustache and murmured drowsily over a full stomach, "Interesting, Father, so we become thieves in the interest of progress. I'm glad I'm promised an abbey on a cool hilltop here . . . because it's going to be awfully hot where we're going hereafter!"

"Blasphemy," growled the angry old man, "It is not stealing when one takes culture from those who are hoarding it and spreads it for the world to enjoy. It is even as the prophets and disciples spread the word. Silk is a blessing meant for all mankind to enjoy. Whenever a nation seeks to hoard it, the Divine Logos has manifested itself by breaking the bars that kept the treasure secret. I will prove it."

"You know that there are none more wily or clever than the Chians. They invented silk, and tried to keep it their own national secret. It is said that some 3000 years ago (2640 B.C.) the Chian Emporer, Hwang-Te, had a beautiful consort named Se-Ling — she who took great pride in her garden of mulberry trees. She



Drawing by Hokusai

was so fond of them that she even nurtured the moths and grubs which feasted on their tender leaves. Thus she learned their secrets, and soon discovered how to rear the silkworms, reel their silk and spin it into cloth on a loom of her own invention.

"The ladies of the court emulated the habit of the royal consort and soon sericulture became an important factor in the lives of

the royal, noble and wealthy families. Being a 'closed' nation, silk became a state secret, like paper, the compass and the carved blocks their scribes used to print multiple messages. The fabric reached many places, as is attested by ancient writings, but the secret was well kept. Aristotle, the ancient sage, who probably heard it from the lips of his warrier pupil Iskander (Alexander the Great), describes the Great Worm which has horns and differs much from insects and animals that are known. The philosopher also describes how the insect spins its own thread, which in turn is woven by women into fabric. This secret was known to the daughters of Cos who created the Cos Vestis . . . that concealing revealing cloud of gauzy stuff the secret of which is now lost.

"For many years the Chians kept their silken secret and profited by it until the Zipangos (Japanese) sent a wily band of Koreans to learn the mysteries of sericulture. The Nihongi, one of their great books, relates that the Korean emissaries were successful. They collected a harem of four Chian maids who were skilled in the art of preparing silk and took them to Japan. These maids have since become deified and there is a heathen temple erected in their honor by the Zipangos in the province of Setsu.

"But the divine word cannot be kept secret, as I have said, and silk started to travel westward. A Chian princess in love with a Mongol prince carried seeds of the mulberry tree and eggs of the worm concealed in her headdress into the valley of the Ind (between the Brahmaputra and Ganges rivers) over which her Lord ruled. From thence sericulture spread to Persia and those states adjoining.

"Now we are the humble instruments by which this noble art will be carried into the Christian world."

"It may be carried into the nether world," growled the younger man as he rose hurriedly to his feet, "that cloud on the horizon is no bringer of rain, but rather of death, since it is made by horses' hoofs. Let us hurry Father, and if pursuit comes too close, we must separate, so that one of us can reach our journey's end."

History relates that both monks did reach Istanbul without harm. From the results of their work, all types of western silkworms and silk were developed. A prosperity in sericulture arose that lasted for 1200 years, for it was only in the 18th century that Europe had to turn eastward for help in making the supply of silkworms equal to the demand.

Silk Enters Economic Europe

Byzantine silk became well known throughout the western world. The Saracens, their neighbors, learned the secret and spread the silk trade east and west. The Crusades started silk caravans and galleys roaming as far west as England. The designs and patterns became characteristic of peoples and times. The Saracens, who tilled by the sword, planted by industry. Silk culture was brought by them as far west as Sicily and eastward to the Indian seas. The constant wars between these followers of Mohammed and the followers of Christ necessarily gave rise to an intermingling of cultures. Silk became a European necessity and a stimulus to industry, culture and exploration. It dyed the entire economic structure of Europe with its own particular color.

Thus the Si, as the Chinese called silk, became in order the Korean Sot, the Latin SERICUM, the French SOIE, the German SEIDE, and the English SILK.

The rise of the silken era of the Renaissance is credited to Ordericus Vitalis, who described the glories of the silken dress of the Cathedral Chanters of the Bishop of St. Ervoul in Normandy. This French prince of the church had brought home from Apulia in Italy four wonderful pieces of damask which he had made into ecclesiastic garments. These were so opulent and luxurious that they aroused the envy of his brother prelates.

These ecclesiastics set out to prove their own richness and the power of the church by outdoing the Frenchman. The nobles were



not going to let the church steal a march on chivalry and put its pageantry to shame, so the Mediaeval Ages became the silken ages, and the indulgence in silken vestments gave rise to the meteoric advance of Florence, Genoa, Milan, Pisa, Venice, Bologna and Rome. At the height of this period the trade and commerce in silk (next to war) formed the major part of the city-states' incomes. History is gem-studded with the names of families who became silk patrons. Borgia, Sforza, d'Este, Visconti, della Rovere, sel Sarto, de Medici and Colonna were among the Italian families whose vast war-funds were supplied by the silk husbandmen of their peasantry. Money raised in the silk trade provided Cesare Borgia with his Spanish and Dutch mercenaries . . . the condittori . . . who reported to their homeland the profits that were made in silk and who exhibited silken loot, gathered as part of their pay.

The grandees of Spain, familiar with silk since the Saracen invasion, took to their own in its manufacture. In Seville, in the 13th century, there were over 12,000 silk looms.

This 13th century was (up to the present time) the greatest era of prosperity that the silk industry had ever known. Silk became a necessity rather than a luxury. Wars and conquests had brought about a distribution of wealth among those of lesser caste than the nobility. The yeoman, as well as the knight his lady, would bring his lass a silken ribbon. Spain and Portugal sent caravels out over the waterways of the world, to discover a new passage to India. Silk and more silk was needed for the European market and, as commerce was supplanting chivalry in the spirit of

the times, new ways and means of creating and trading in silks were developed.

In 1480, Louis XI of France became the patron of French silk industry at Tours. In 1492, Isabella of Aragon sent Christopher Columbus out to find a new silk route to India northwest via water. As a result, America was discovered. Later that century, daGama the Portuguese made his momentous discoveries while seeking a northwest passage to the fabled Orient.

In 1520, Francis I decided that Tours would not have to import its raw silk and he became the patron saint of Tours by bringing silkworm eggs from Milan to the Rhone Valley.

About eight years later, England started to sit up and take notice when a large party of Flemish weavers migrated to the isle from the Lowlands. Spain was at war with the Netherlands and the immigration was a direct result. Henry the VIth gave these workers shelter and started England's silk industry. About 100 years later, religious persecution of the Protestants forced another band of immigrants to seek shelter in England and give real impetus to her silk industry.

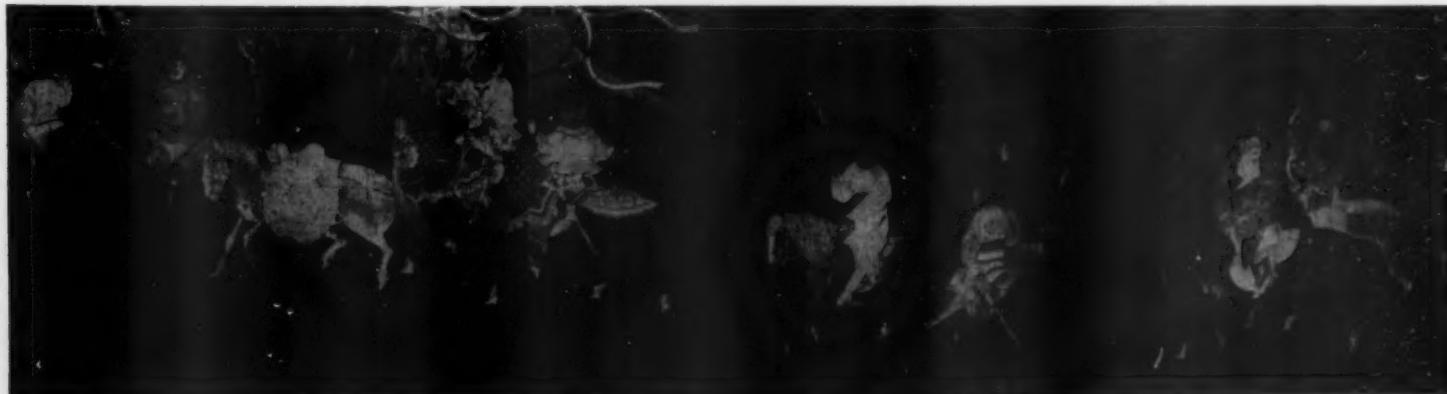
Origin of Spitalsfields Silks

These were the Huguenots, skilled craftsmen who knew how to "work" silk. The revocation of the Edict of Nantes drove them from France, some to Germany and Switzerland, but most of them fleeing to England. They settled in the Spitalsfields in London and formed a guild of silk throwers under James 1st in 1629.

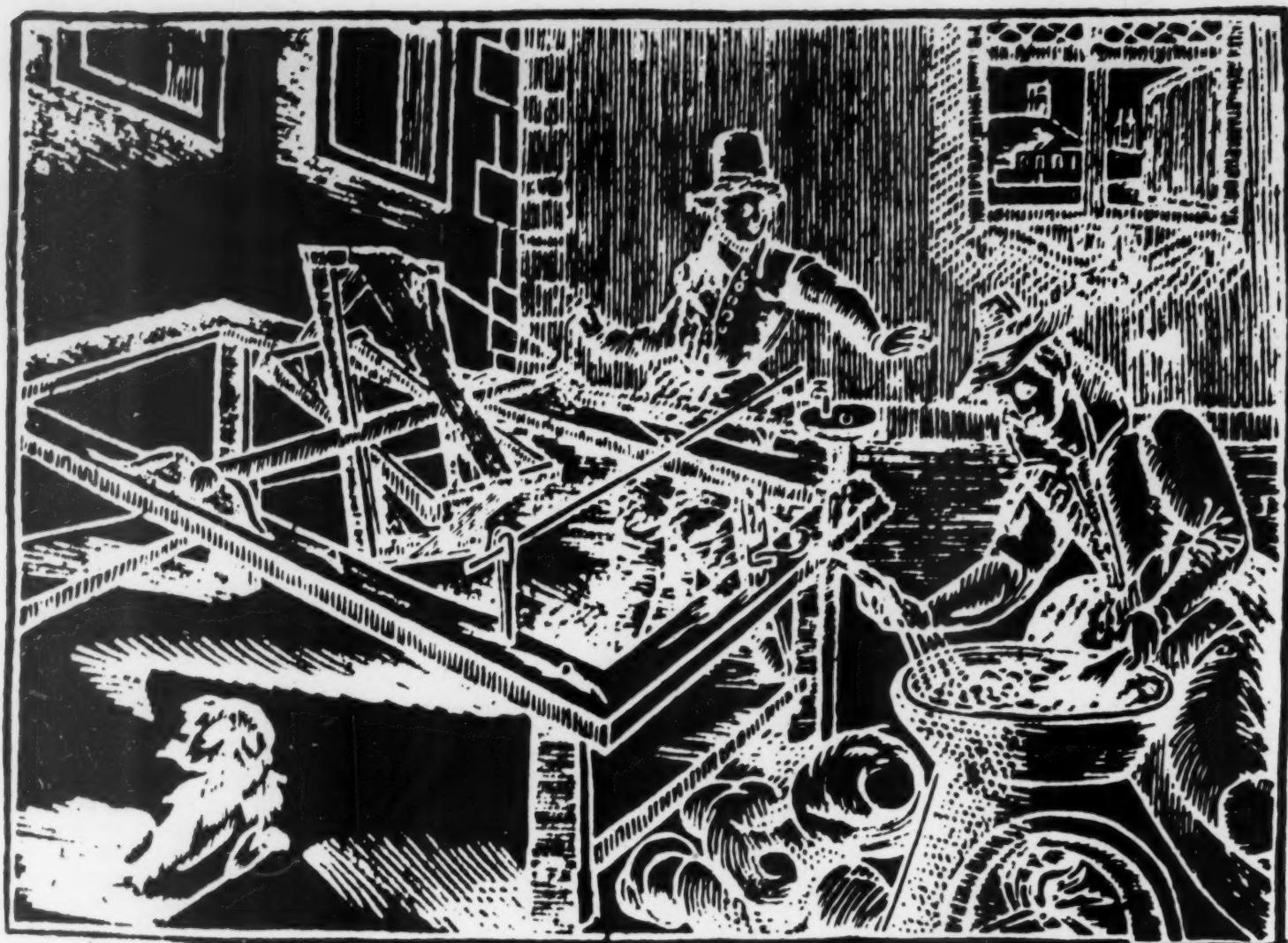
James had many irons in his royal fire, but among those dearest



Example of 20th century silk weaving by Scalmandré



The illustrations: atop of page, Horses Washing, Uyon 1280-1368 . . . Directly above is famous Tribute Horse — Metropolitan Museum.



Silk Winding in Virginia in the year 1650 — Courtesy of Brooklyn Museum.

The Story of Silk (continued)

to his heart was the forestation of tracts in both England and the colonies with mulberry trees, and the raising of silkworms.

Williamsburg, Jamestown, and Yorktown in Virginia; Princeton, New Jersey; Boston, Philadelphia, and many sections of South Carolina and Connecticut still show the efforts of the early settlers to raise trees for the fodder of silkworms.

Silk and French Fashion Supremacy

Shortly after this, France had a visionary, Olivier de Serres and Laffemas, who in 1700, against the will of Sully, obtained royal edicts favoring the growth of mulberry plantations and the cultivation of silk, thereby increasing the occupation of peasants who were in a state bordering revolt. However, the benefits of these efforts were not realized until the time of Colbert, who encouraged the people to take up this industry and gave them premiums for results. This gave rise to French sericulture . . . AND TO THE BEGINNINGS OF THE FRENCH FASHION SUPREMACY engendered by the translation of silken fabrics into fabulous clothes.

Silk Raising Unsuccessful Here

Despite the efforts of James 1st, silk raising was never successful in America. The climate and soil did not seem to bring out the best for production and the early efforts were hampered by wars, financial difficulties, political differences, etc. Today, it

would be impossible for the United States to enter into sericulture on a vast commercial plane because the cost of production would not warrant doing so. Our high standards of living prohibit the raising of worms and it is cheaper to import the raw material for manufacture here.

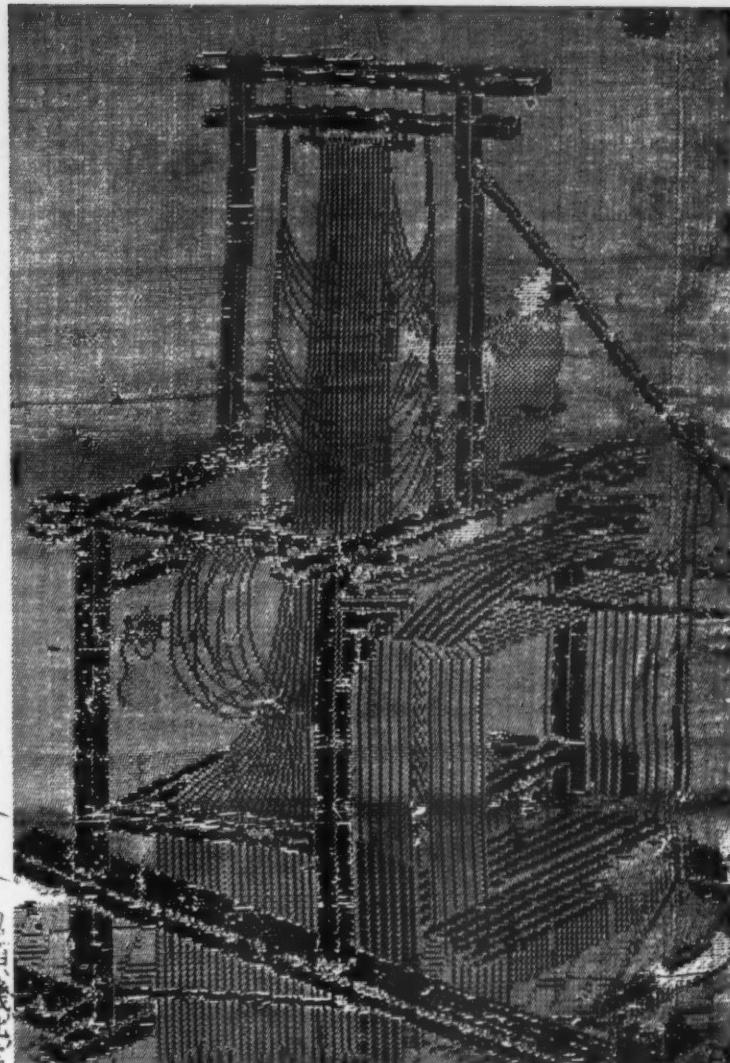
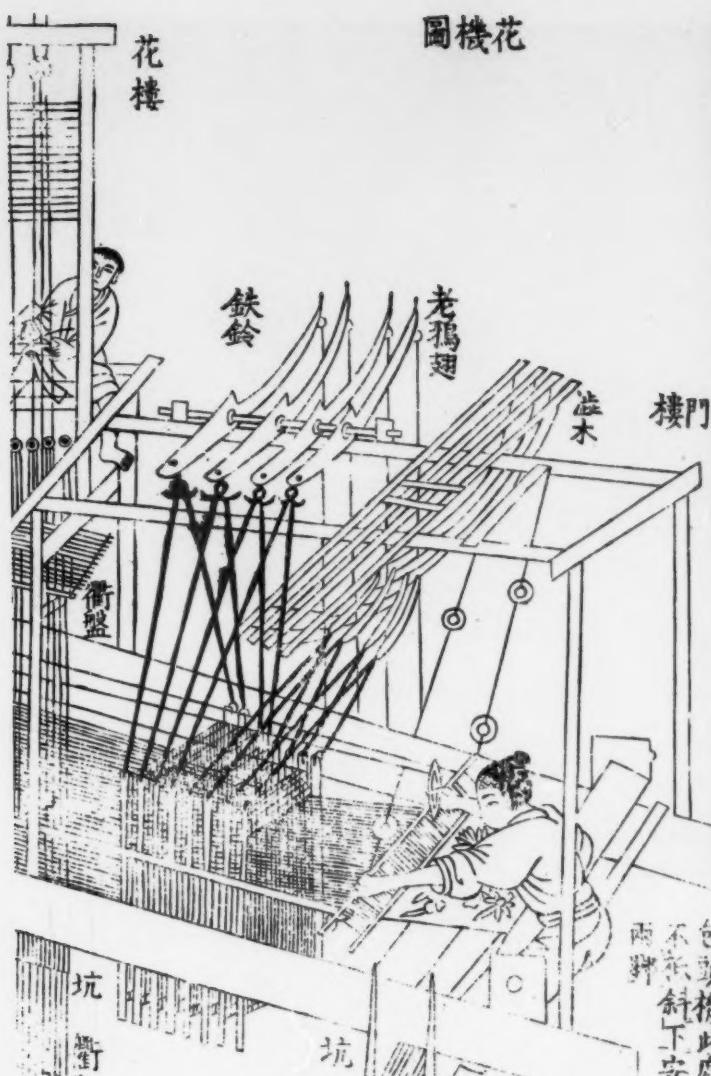
Ben Franklin Experiments

But we have made many efforts at it. Ben Franklin tried his hand at nursing filiations into healthy life in the Philadelphia vicinity. It came to naught. It was tried in California in 1865-66 when a bounty was offered for home grown silk. But the law was soon repealed. Probably this was due to the experience of merchants and financiers during the panic of 1837. In that year, speculation was a mania. It upset the economic structure of the United States so badly that everybody was looking about for some venture to recoup previous losses. No matter how wild the scheme, if there was the faintest glimmer of a golden thread of profit, investors plunged blindly into it. In spite of the previous reverses in this country, projects for sericulture were revived.

Speculation in U.S.A.

A hysteria gripped the people and this insanity was fostered by Samuel Whitmarsh and his representatives, who painted a Golconda picture of the great capabilities of the South Sea Island mulberry trees for feeding silkworms. The public saw sericulture as a means of winning back their investment losses. People went

圖機花



Left above, drawing of Old Loom — Brooklyn Museum . . . right, fragment of 18th century Silk Brocade — Metropolitan Museum.

wild . . . other crops and industries were neglected in the scramble to get part of the "eighth wonder of the world." In Philadelphia trading in trees (sometimes they were sold three and four times at a profit) became so great that \$300,000 changed hands in one week in turnover although no actual trees were exchanged in this period. Prices of shrubs rose to \$1 each in a time when a dollar was equal to twelve of today's. But the public soon learned. In 1839 it was discovered that the "morus multicaulis" was not a golden rooted tree, but a drug on the market. Costly plantations were uprooted. The standard of living and costs compared with other nations that raised the worms and trees made the wiser merchants of this country see that it was cheaper to buy raw silk abroad.

Rise of American Clipper Ships

This devastating financial venture, however, was not without its financial benefits. The need for silk importation gave rise to an ever growing American sea-power. Her clipper fleet was developed and the greyhounds of the sea visited every Asiatic port in the quest for silk.

Millions of dollars were poured into our merchant marine and hundreds of thousands of men sought fame, fortune and adventure on the chase "round the Horn." Admiral Perry gave the sea trade a further stimulus when he opened the doors to Japan in 1853.

Perry found this feudal people engaged in the production of silk . . . the stuff our ships were seeking as cargoes. Intercourse

(though not without difficulty) was promoted between our nation and Japan.



Japanese Story of Silk

The Japanese call the silkworms OKAIKO-SAMA (honorable silkworm). They believe that a spirit within the body of the worm accomplishes a marvelous process within its body by which it is able to transform inner substances to silk.

A Japanese, H. S. K. Yamaguchi, writes this pleasant description of the KUWA . . . the mulberry tree upon which the Okaiko-Sama feeds.

"While there are large mulberry trees in Japan, the majority of them are small, seldom attaining a diameter larger than six or seven inches and not more than six or seven feet in height. The branches of these trees are cut off in spring to make way for new branches to grow. The branches grow rapidly . . . about as fast as grass.

"When travelling one sees patches of these dwarfed, pollarded trees . . . more like shrub than a tree, with knobs around their (please turn page)



Moths and eggs — initial stages in the production of silk.

From silk worms in Japan to modern American fashion fabrics



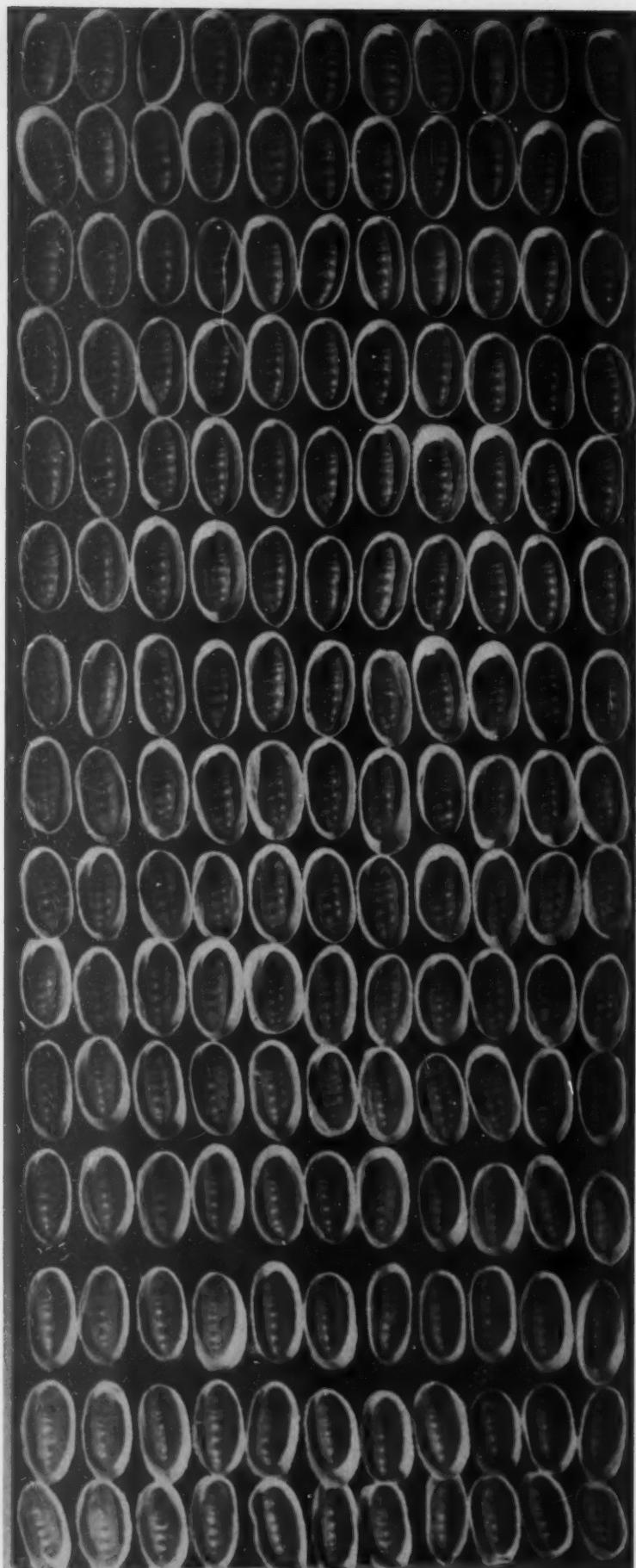
The Story of Silk (continued)

trunks where the old branches have been cut off . . . near farm-houses whose occupants rear silkworms.

"Besides its leaves the "KUWA," the mulberry, is valuable for other purposes. Its bark makes a very good grade of paper, and many kinds of Japanese paper are made from the pulp of the cut-off branches. Its wood, especially that of the large trees, is

highly valued in cabinet work and furniture. The mulberry bears a purplish-blackish berry somewhat like the blackberry, but longer, which has an agreeable taste, but the berries are not produced in any one locality in marketable quantity. They are gathered and relished by the farmer's children.

"But the utilization of the mulberry is insignificant in comparison with the value of its leaves as food for silkworms. In the



Panel of Cocoons Showing Chrysalides

three seasons for rearing the worms, but especially in the spring season . . . the most important . . . the farmers' wives and children are busy from dawn to late at night picking leaves enough to satisfy the voracious appetites of the silkworms . . . with the added labor that should the leaves be damp from any cause, each one must be carefully wiped dry!"

After many chapters Yamaguchi goes on to tell about:

The Progenitors of the Silkworm

"Introducing Mr. and Mrs. *Bombyx mori* — small moths half an inch long, wings of ashen white — the parents of the silkworm. In the whole world of stock raising there is nothing more remarkable than the birth of silk-worm moths. The cocoons on the racks in the farmer's home are covered by sheets of newspaper in which a number of round holes about three-quarters of an inch in diameter have been cut. When the moths emerge from their cocoons (only in the form of the butterfly can a cocoon emerge), the empty shell can only be used for waste silk. Except with cocoons intended for seed the moths are not allowed to live on and are stifled by steam or hot water so that the silk will not be spoiled. They seek these openings and creep through them towards the light. For newly-born creatures they evince astonishing ardor. On the newspaper the few males who have not found partners dance wildly, their wings whirring at a mad pace. The males are thinner than the female and more agile. From time to time they cease dancing and haunt the holes, through which the newly-born moths emerge.

"When a female appears, a male instantly rushes towards her, or rather the two creatures rush toward each other and at once are locked in a fast embrace. Immediately their wings cease to flutter, the only commotion on the newspaper being made by the unmated males. In the hatching room these males on the stacks of trays are so numerous that the place is filled with the sound of their wings. From time to time the girls and women in charge of the silkworms lift down the trays and pick up and cast aside the superfluous male moths.

"The female moths, when their partners have been removed, are each put within a half-inch-high tin ring two inches in diameter, placed on cards on which the eggs are laid, and each moth immediately begins to deposit eggs (usually from 600 to 800 of them) called 'seed,' in her ring. There are 28 of these tin rings on each card, which is about 10 x 12 inches square. The bottom of each 'compartment' becomes covered with eggs which, being sticky when laid, adhere to the card. The moth is destroyed. The egg is nearly round, slightly flattened, and closely resembles a turnip seed. It takes fully 30,000 eggs to make an ounce avoirdupois. Each egg has a small spot on one end, and, when hatched, the worm gnaws a hole through this spot.

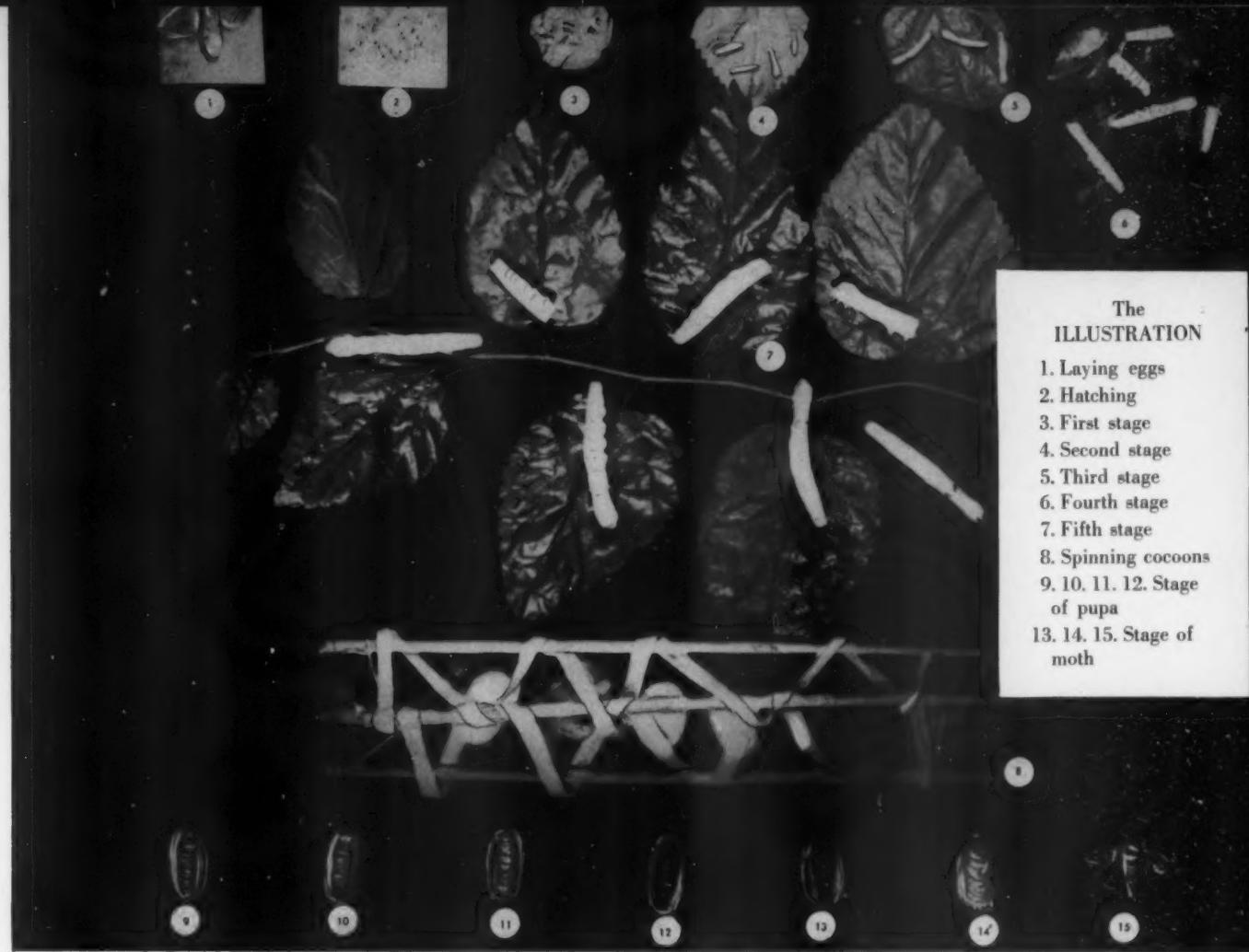
"The discovery that the hatching season can be controlled by regulating the temperature in which the eggs are kept made Spring, Summer, and Autumn rearing possible, thus increasing the cocoon production."

The Magic Silkworm

"According to the temperature, it takes from three to seven days for the moth eggs, or 'seed,' to hatch the worm — which then commences a short span of life that scarcely ever exceeds thirty days. At first it is black in color, a short one-eighth of an inch in length, covered with long hair and with a shiny nose.

"The worm has four molting periods or 'sleeps,' in each one shedding its old skin for a new one as the skin cannot keep pace with the worm's growth. The periods between these molts are called 'ages,' there being five; the first extending from the time of hatching to the end of the first molt, and the last from the end of the fourth molt to the transformation of the insect into a chrysalis. When the worm molts it ceases eating, grows slightly lighter in color, fastens itself firmly to some object, and, holding

Stages in
Life of
Silkworm
(See chart, page 75)



The
ILLUSTRATION

1. Laying eggs
2. Hatching
3. First stage
4. Second stage
5. Third stage
6. Fourth stage
7. Fifth stage
8. Spinning cocoons
9. 10. 11. 12. Stage of pupa
13. 14. 15. Stage of moth

up its head and the fore part of its body, remains in a torpid state for nearly two days. In molting, the old skin breaks at the nose, the head is pushed out, and the worm, by wriggling and twisting, gradually works the old skin back from segment to segment until it is entirely cast off.

The Feeding

"By each successive molt the worm grows lighter in color finally becoming slate or cream white; and the hair, long at first, gradually disappears. Weak and feeble after each molt, the worm gains strength by resting and then, freshened, supple and hungry, begins again to eat the mulberry leaves with such renewed vigor that several thousand of the worms eating make a noise like falling rain. They are fed with the tenderest leaves, assorted and chopped according to the age of the worms. In rainy weather each leaf is carefully wiped: dampness might be fatal. The worm lives for about forty days as a worm, until it attains its full growth of about three inches — and in appearance it is then one of the ugliest objects of animate nature. Then the buzzing noise of the crunched leaves ceases and the worm, with the instinct of a perfect engineer, fastens its silken guy lines to a twig or bundle of straw so that the cocoon will be effectively secured in place.

"The worm now spins itself, in its precious silk cocoon, into the sleep from which only the small minority reserved for breeding will ever awake. It is now only about two inches in length. The silk is elaborated in a semi-fluid condition in two long vessels inside the worm. Near the head of the worm these vessels grow more slender, finally uniting within the spinneret — the small orifice below the mouth, from which the silk issues in a glutinous state and apparently in a single thread. In reality the threads are

two, one silk-one gum). Recall that there are two glands, one for the secretion of silk threads and the other for the secretion of gum, which surrounds the silk thread immediately and protects it against atmospheric and natural conditions. This gum is the main reason why the antique fabrics lasted so many centuries. Many times they were woven with the gum and of course cleaning, and washing, unless brought to the boiling point, did not affect the gum. It is also very important that this gum was ready to be used as weighting of the fabrics when the first guilds were formed for the protection of the purchaser. The amount of gum used was the equivalent of 40% of the weight of the silk thread, but in years gone by unscrupulous silk merchants substituted the gum with tin and weighted the silk with this, which caused the deterioration of the silk threads. The worm works incessantly. The thin, gauze-like network which soon surrounds it gradually thickens until, in 24 hours after beginning to spin, the worm is nearly hidden from view.

A Foot of Silk a Minute

"The motion of the worm's head in starting the cocoon is very rapid and nine to ten inches (nearly a foot) of silk flows from the spinneret in a minute. Later the average is about half this amount. The worm first makes the outline of the cocoon, after which it works from the inside, gradually enveloping itself. From three to five days are required to complete the cocoon, which then is about one inch in length and which, when unwound, gives from 800 to 1,000 yards of firm continuous thread. During the short life of the worm the temperature of the room must be maintained at about 72° F. Thus the worm provided a silk filament, derived

(please turn page)

Cocoons
Nesting



Pure silk, pure dye jacquard woven by Goodman & Theise, makers of Stafford Fabrics. An extremely high number of picks achieves color brilliancy and a dense black warp results in depth of pattern. Superb example of American silk weaving.

from mulberry leaves, which has been transformed in its body by a magical process. The silk first spun by the worm in getting its bearings is loose and is known as 'floss.' This floss, or outside loose silk, is known as 'waste silk.' As there are more than 1,000 breeds of silkworms, all cocoons are not of the same shape or color. Some are oval; others are like a peanut. In the European markets cocoons are the object of lively transactions.

"A cocoon may be unraveled by hand through several hours of patient labor. The unraveling is the work of the filatures, hand and steam, where the filaments or from four to six cocoons are united into a single thread — the raw silk of the commercial world gathered into skeins."

Sericulture in Japan

Raw silk, prior to 1941, was the most important and principal staple in the exports of Japan, constituting about 37% of the total amount of its foreign. By "raw silk" is meant the silk thread twisted into thick skeins of the natural color, the palest shade of buff, almost white. The product of the so-called wild silk-

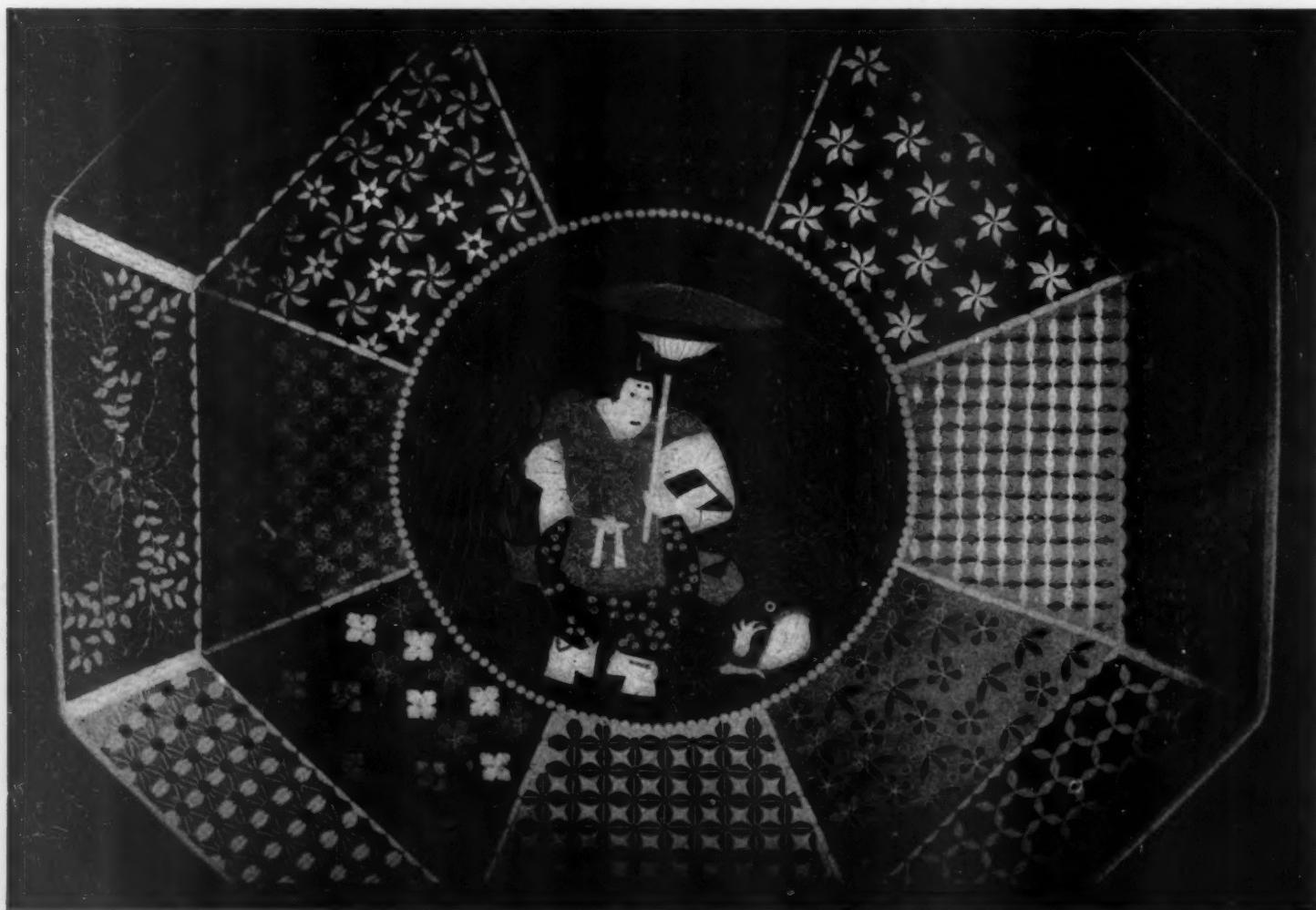
worms is usually yellow, but, strictly speaking, there are no wild silks, all cocoons of commercial value are cultivated. The most important of this "wild silk" called "pongee" is produced by the tussah worm which is an oak leaf feeder.

Japan supplied about 60% as against about 40% from China of the rest of the world's raw silk needs, the United States taking from 85 to 90 percent of the quantity exported. The value of the raw silk exported increased from \$3,040,500 in 1868 to \$381,040,140 in the boom year of 1929, with a high of \$2,200 a bale in 1919. The economies of both nations were affected by trading in their staple exports, for example in 1929 when U. S. Steel sold for \$260, raw silk touched \$700 a bale. When steel was down to \$26 in 1932, raw silk sold for \$153 on the Yokohama silk exchange. Nothing affected the Japanese silk market as quickly as the changes in American business conditions.

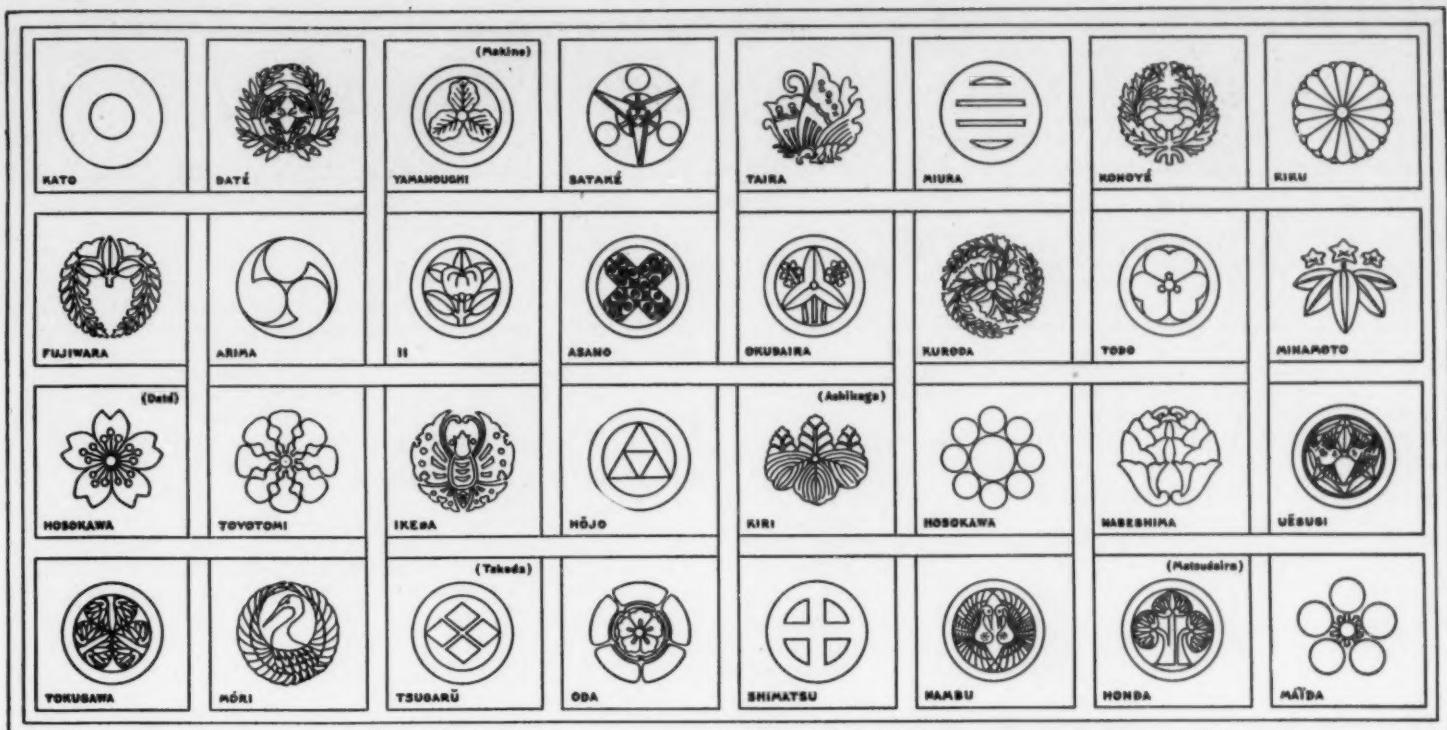
Raw Silk Supports Japan

Sericulture is next in importance to rice culture in Japan and raw silk was the foremost of her exports. In 1931 the raw silk exported paid for all the cotton, coal, rubber and automobiles Japan imported for that year. About 40% of the farmers of Japan, or more than 2,000,000 households, were engaged in sericulture before the war, and about one-tenth of the arable land of that country was planted with mulberry trees — fodder for the silkworms.

Japan became the world's chief source of raw silk because her large farming population, engaged in the cultivation of very small farms, provides the mass of the virtually unpaid labor which is needed. Practically the entire cocoon output is produced as a



19th century Japanese lacquered plate, showing influence of textile design on period pottery.



Crests of distinguished Japanese Families — Metropolitan Museum of Art.

subsidiary occupation for the farmer's wife and children, whose painstaking care of the worms night and day at a time when they could not otherwise be gainfully employed adds nothing to the cost . . . which is mainly the cost of the egg-cards and the rent of the land on which pollarded mulberry trees are grown.

We in America are faced with a paradoxical economic and political problem in regard to Japan. We can, with a large occupation army, either keep this nation whom we have conquered in economic shackles, *and support her peoples by relief raised by taxing ourselves . . . or we can restore her economic balance by providing a market for silk . . . silk that we can use to our own advantage and profit.*

The United States Government favors the latter phase of endeavor. The people of the United States from many reliable indications, would place silk into the prominence it deserves were they able to obtain silk fabrics.

Under given conditions, the natural fiber silk cannot be easily imitated by man-made fibers. It has tensile strength, added to texture and feel, that is lacking in most synthetics. It has cleaning properties which, when used as a blender, tends to improve many types of fabrics. Such combinations as silk and wool, silk and cotton, silk and rayon, have all been tried and proven successful.

Decorative Fabric Fields, Too

In the decorative fabric, drapery, and upholstery fields, pure silks and silk velvets have proven their merit. With a surplus of raw silk at hand, silk could in many cases, become less expensive than its synthetic substitute.

Parisian couturiers are stressing silks in the fashions shown by leading houses. The question before American mills and manufacturers is: will they wait five to ten years before discovering that the American woman likes the feel of silk underwear, the drape of silk dresses, the wearing quality and luxury hand of silk drapery, the strength of silk thread and the color afforded by silk designs?

American merchants, too, must cast an eye on future export markets. Accustomed by tradition, by literature and by experience, the quality foreign markets, such as Latin and South Amer-

ica, will not accept substitutes for the real thing. They will not as eagerly embrace synthetics as real silk.

The re-establishment of the Japanese raw silk market and the resumption of silk textile manufacture in this country would, many experts believe, do much to improve the general business condition at home and accomplish our avowed foreign policy. These are the factors involved:

1. It would reduce taxation (that portion afforded to Japanese rehabilitation).
2. It would give us a strong ally with bases close to U.S.S.R.
3. It would stimulate the creation of new fashions . . . both in wearing apparel and in home furnishings and industrial needs.
4. It would encourage new businesses.
5. It would give preference to American fabrics in the growing export market.

In regards to this latter phase it is interesting to note that the Russian Government has set up a series of silk mills and is employing Chinese artisans plus German technicians to modernize and create her silk industry. While the Soviet's efforts are scarcely known to the world market, it might be interesting to note that Cuban blouses and Mexican scarves of Russian silk have already found a market for themselves on this side of the ocean.

From these and other indicators, such as lowered costs and selling prices, the traditional fineness of silk and its unquestioned acceptance by the consumer, it is obvious that American mills, converters, jobbers, manufacturers and retailers of textiles and apparel cannot wait too long to exploit that unfortunate victim of the second world war . . . SILK! •



*For a Condensed Dictionary of Silk
Fabric Definitions, please turn page*

A CONDENSED DICTIONARY OF SILK FABRICS

BARATHEA: A plain or twill weave fabric of English origin which has a granular effect because of the short broken ribs that alternate in the construction.

BENGALINE: An imitation of the old characteristic cloth which first came from Bengal, India. A poplin, rib or rep weave is used in order to give the filling very cylindrical lines that are more or less prominent. The cord is produced by using a softly spun worsted filling. The warp is compact in texture. The filling is usually covered up or it may be seen on the under side of the cloth only. It is used in millinery, ensembles, novelties, ribbon, coating, and as drapes.

BROCADE: From the French, brocart. This cloth shows patterns of flowers, foliage, scroll-work, pastoral scenes and the like. It is often enriched by the use of metallic threads. All types and kinds of Jacquard patterns are seen in the cloths, even in low priced goods. Brocade is used in pillows, portieres, interior decoration, stage presentations, evening wraps, etc.

BROCATELLE: A fabric with raised effect of design. It usually implies an all silk brocaded fabric which is used for portieres, curtaining, furniture covering. It is a type of brocade and is usually more expensive than the latter.

CHENILLE: In French, means caterpillar. Chenille fabric has a fuzzy or fluffy face which resembles this insect. The cloth is of the cut pile type and the napped ends or floats can be picked out easily. It is not a rugged or durable cloth but is very attractive. Chenille is used for dressgoods, rugs, pile cloths, table covers, curtains, bedspreads, and in the millinery trade.

CHIFFON: A thin, transparent silk muslin type of fabric. It is very gauzy in appearance, but has considerable strength. The material is used in dressgoods, draperies, fancy work and for "draped-over-silk" foundation dresses for evening wear. It has been figured that one pound of chiffon yarn is about eight miles long.

CRÈPE CHARMEUSE: A rich feeling, dull luster, piece dyed cloth. It has glove-like smoothness; grenadine silk is used in the warp and the filling, the latter being crepe-twisted. The cloth has stiffness and body characteristics of a satin. It clings to the form very well and drapes gracefully. It is used for dresses, waists, evening clothes.

CREPES OF VARIOUS TYPES: The word "crepe" is a much used term. It is applied to all of the major fibers when the material has some sort of a crepe effect. There are crepes in cotton, wool, worsted, rayon, rayon acetate, silk, linen, etc. All of the crepe cloths are made from the well-known "crepe weave." Some silk crepes are Chenette, de Chine, Diamond, Jersey, Faille, Sublime, Georgette, Lease, Lisse, Meteor, Crepenette, Crepon, Crinkled Crepe, and so on.

CORDUROY: A material of the velvet family made in any of the major textile fibers or filaments. It is made of one warp and two fillings. One of the fillings will weave tightly in order to form the body of the cloth; the other filling will weave for one or two warp ends and then will float over three or four more ends. These floats of filling run in lines parallel to the warp so that when the cloth comes from the loom its face has the appearance of a filling rib, while the back of the goods will show either a plain weave or some other weave such as a small repeat twill effect. Some corduroy is now made with the cords running in both warp and filling direction. Uses of corduroy are for breeches, slacks, coats, bush jackets, hats, suiting and hunting coats.

CUT VELVET: A fabric in which the pile has been cut by the cutting knife. There are several types on the market: mirror velvet is one in which the looped pile or face filling has not been cut. In wire velvet a series of wires is used in the weaving of the cloth which has regular rows of loops across the goods. Incidentally, these loops are cut to give a cut pile material.

DAMASK: A fingernail fabric of satin ground. The cloth originated in the city of Damascus in the thirteenth century. This Jacquard cloth is on the order of brocade but is often richer in design. Damask is used for tablecloths and napkins, decorative silks, dress fabrics, and hangings.

FOULARD: A lightweight, soft feeling cloth which is dyed or printed to advantage. It was originally made for the handkerchief trade but is now found in neckwear, dresses and linings. It gives good wear, has good color combinations, and is much used for summer wear. Two up and two down twill weave is used in making foulard; much of the cloth is also woven on the plain weave order. Other weaves are used periodically.

GLORIA GOODS: A durable, plain weave cloth which is made of a silk warp and a cotton or worsted filling. It is much used as umbrella cloth.

GRENADINE: An open-work, gauze-like cloth of silk, either plain or figured in design, which has a rather stiff finish. It also comes in worsted and cotton.

GROSGRAIN: A heavy-ribbed, plain weave cloth made of silk and used in dressgoods, vestments, coats, and ribbons. There are from 50 to 70 ribs per inch in the goods. The cloth is rugged, attractive, durable, and is of the formal type. Some grosgrain cloths are Gros des Indes, de Lyon, de Naples, de Paris, de Tours, de Milan, etc.

HABUTAI: The term means "soft or downy." It is made of Japanese silk waste stock that can be twisted or thrown very little or not at all. This plain weave fabric is heavily sized, and it is piece dyed or printed. Many defects are seen in the cloth which presents a typical "shot-about" effect. However, the defects do not injure the sale of the goods. Habutai is used for dresses, coats, shirting, office coats, etc.

JERSEY CLOTH: Jersey is both woven and knitted; dyed in the piece, and is much used in the glove trade since it is dressy, pliable, stretches, and gives good wear. Other uses of jersey are for dresses, hosiery, shirting, sweaters, and underwear.

LAMPAS: A fabric made of two warps and one or more fillers. This type of fabric always works with the warp of the same color, so you can have a definite two-tone fabric or multi-colored fabric where each flower has its own color combination with the same color in the warp.

LIBERTY SATIN: A popular seven, eight, or ten shaft satin cloth of raw silk warp and single, spun silk filling. It is named for the Liberty Company of Paris, France.

MALINES: A very fine net silk which originated in Mechlin or Malines, Belgium. It resembles lace to a marked degree and is used for veiling, dresses, hats and scarves.

MERCILINE: A closely woven, thin, diaphanous silk fabric.

MESSALINE: It is named for Messalina, the wife of the famous Emperor Claudius of the old Roman days. This five shaft satin weave cloth has several varieties and names applied to it. All messaline is featured by luster, softness, pliability and a pleasing handle. It is used for dressgoods.

MOIRE: Cloth which has the desirable watermarked effect in the finished fabric. There are many cloths which have the name, moire, attached so as to signify that the goods have this particular finish. Some of the noire fabrics are the Antique, Paris, Retour, Francais, Imperiale, Ocean, Poplin, Renaissance, Soleil, Supreme, Velour, Nacre, metallique, miroir, etc.

MOMMY OR MUMMY CLOTH: When this term is applied to a cloth it usually means that the fabric is not made for the export trade; consequently, little of the goods finds its way to this country. None of the cloth is made here. For want of a better name, the term mummy is given the cloth.

MILANESE CORDS: Named for the city of Milan, Italy, the fabrics present warp rib effects which are made of cotton cord yarn covered by means of a silk warp which works on the principle of leno or doupé weaving. The cord threads of cotton are completely covered and do not show on the face or back of the cloth.

MONK'S CLOTH: It is made from Tussah, spun silk yarn; basket weave constructions are used in this staple curtain and cover fabric.

NUN'S VEILING: Made from any of the major textile fibers, it is a fine, sheer cloth made in black, white, and colors. It is a substantial material and has the tendency to shine. It is used for veiling by nuns and in colors finds much use in dressgoods, kimono cloth, cloaks, and baby clothes.

MOUSSELIN DE SOIE: This cloth is on the order of a chiffon and has the characteristic finish of the material. It originated in Mossoui, a city near the site of Nineveh. Popular for dressgoods.

ORGANDIE: A lightweight, transparent silk cloth; it is given a crisp finish and simulates the well known cotton cloth of this name.

PANNE: A satin-faced velvet or silk fabric which shows a high luster which has been developed by pressure under rollers in the finishing. Panne means plush. Panne velvet is a popular staple in the trade.

PEAU DE CYGNE: Means "skin of the swan." This satin fabric has a soft, lustrous feel with a very fine, appealing finish.

PEAU DE SOIE: Means "skin of silk." This soft, good quality, silk satin-type of cloth has a rather dull finish and a grainy appearance on the face of the goods. It is made in single face or double face and is woven with an arrangement of close rib effect. When double-faced, the cloth is, of course, classed as a reversible. Granite weaves and quarter-turn weaves are used in producing the cloth.

PONGEE: From the Chinese and means "home-made." This soft, unbleached, washable silk is woven from cocoons of wild silk worms which feed on oak leaves instead of the prepared mulberry leaves. The raw cloth is often shipped to England and the United States for finishing, since cost conditions do not warrant making the goods in either of these countries. China and Japan manufacture the cloth in the gray state. This wide-range fabric resembles habutai and is of the "hit-and-miss" type when it comes to considering yarn, feel and texture.

PLUSH: A pile fabric which has a longer or higher pile than velvet; the pile is more than one eighth of an inch long. It is made from most of the major textile fibers and has a variety of uses; imitation fur, furniture covering, pillows, apparel, and decorative fabrics.

POPLIN: This cloth originated in Avignon, France, during the Babylonian Captivity of the Popes, 1305 to 1370. It was first made of silk warp and the filling was silk, cotton or worsted. The cords or ribs seen in the goods vary as to number in an inch. The filling is very cylindrical and this helps to give the rounded effect in the horizontal direction of the cloth. Ireland has long been associated with the making of poplin. In the latter part of the 17th century some Huguenots, weavers under the direction of Louis Crommelin, went to Ireland and made the cloth with a silk warp and linen filling. Now the cloth is made in all-linen and Ireland has become famous in this branch of the trade. Another popular poplin is made of silk warp, unweighted Chinese organdie silk, and a high grade Cape or Botany Bay wool is used for the filling.

PUSSYWILLOW: A popular silk staple which is soft, thin, dull in appearance and gives good wear. This attractive cloth is used for dresses, waists, and lining material.

RADIUM SILK: The name refers to a taffeta or similar silk which "changes color as the rays of light strike the cloth." The filling is a different color than the warp. This natty material, made in good color combinations, is used for dressgoods, lining, umbrella fabric, and slips.

ROMAN STRIPES: Silks which have vivid lines of color in the warp direction. The name is applied to all cloths with prominent stripes, irrespective of the fiber or fibers used in making the goods. Silk fabric of this name is often reversible. Romans are used in dressgoods, ribbon, trimming, edging, binding, and in rich silks which are often given a moire effect to add brilliance to the fabric.

SATINS: The name originated in "Zaytung, Zaytown" China. Satin weaves are used in making satin fabrics thereby insuring the full-face color of the warp or the filling on the material.

For example, an eight shaft, satin weave, filling effect, would have the warp ends show on the face of the cloth only one interlacing in every eight; the filling would show on the face of the goods every seven out of eight interlacings. Seven-eighths of the face of the cloth would show the filling effect. It would appear to the casual naked eye as a "solid-effect." This effect makes satin ideal for evening gowns and dresses. Satins are smooth, have clingingness, are "form-revealing," and smart in appearance.

When satins first came into prominence, the spelling of the term in Europe was "aceytuin" and then Italian spelling became "zetain." From the original Chinese spelling the term was contracted to "zitin" and finally became "satin."

Satins were known in the European world at the time of the first rumblings of the Renaissance in Italy in the 12th and 13th centuries. The cloth was known in England by the 14th century. In court life, satin soon became a reigning favorite because of its exquisite qualities and feel.

All of the many satin weaves, both warp and filling, are used in making satin fabric; the different weaves used readily gave rise to the many fancy names applied to cloths made of the weave. Each satin has its peculiar or particular characteristics which set it more or less apart from the other satins.

In cheaper satins, cotton warp or cotton filing is often used. A low-grade silk is often used in the cheaper cloths. Rayon and Rayon acetate materials are popular in the market when made of satin construction. The price range in satins is varied. There is probably more variance and wider extremes in the price per yard of satin than any other fabric; this is certainly true in staple cloths found today.

Cotton back sateen has the underside of the cloth made of cotton; the face of the goods is silk or rayon. This arrangement gives the material a chance to be worn to better advantage because of its usefulness.

Satin is woven face down in the loom because of the great lift of the harnesses when eight or more shafts are used. By weaving face down, it is then only necessary to have one or two harnesses raised at a time when the shed of the loom is formed for the actual weaving. The wear and tear on the loom is therefore greatly reduced.

Satin gray goods must be handled and treated with the utmost care. The cloth, of course, as it comes from the loom is not in presentable form. Cloth is made in the finishing and since satin made of silk is expensive when compared with the cost of other major fibers, it will be seen that every operative who comes in contact with the goods must give his or her undivided attention to the handling and work at hand. Some procedures in finishing silk are of a secretive nature.

The uses of satin are many . . . slips, creations, classics, haute couture, gowns and dresses in the apparel field; lining fabric, for use in the millinery trade, drapes, hangings, covers, pillows, etc.

Some of the satin fabrics found today, all different, no matter how slight in order to warrant a new moniker, are: Satin de Chine, de Lyons, double faced satin, satin Duchesse, Turc, satin taffeta, Serrano, panne, messaline, merveilleux, Luxor, canton, Empresse, de Bruges, crepe, Grec, etc.

SHANTUNG: A plain woven, rough fabric made from Tussah silk. It is a rugged type of cloth on the order of pongee, but is always a light coffee color when finished. It is used for office coats, shirting, handkerchiefs, and dressgoods.

SHOE TOP SILK: A heavy twill or satin weave cloth which is usually figured in design. Cotton filling is used in the cloth. It is a rough material and withstands wear very well. Shoe silk is much used for evening slippers and handbags.

TAFFETA: This cloth is supposed to have originated in Persia. The term means "Twisted woven." Always a staple fabric, it is in the same class and demand as satin made of silk. The cloth is made of a plain or tabby weave and the textures vary considerably. The package ranges from 70 to 130 or thereabouts.

The cloth is sometimes made in changeable effects. Solid shades and fancy prints are popular in the trade as well. Taffeta is made in cord effect, plaid designs, rib effects, and in plain textures.

Taffeta is often given a moire effect which it takes very neatly. The silk that should be used for a good taffeta must be of the best quality and it must be worked and inspected constantly. In the "watering" of taffeta, care must be exercised so as to have the fluid just right so that the correct tone of luster will be apparent in the goods. Calendering must be done carefully since it is an easy matter to apply too much heat to the goods. Excessive heat will tender the goods.

Taffeta will not wear as long as other silk fabrics of high quality since weighting is given the material. Excessive weighting will cause the goods to crack or split. However, the weighting gives the material its characteristic property of stiffness and scroop.

Uses of this ever-popular fabric are for slips, dresses, ribbons, waists, umbrella fabric, and evening wear.

TIE SILKS: The broad term is given to silks which are used for neckwear and cravats. Tie silk is plain or fancy and there is a great range in the cycle of cloths used. Some of the poorer quality silk taken from lots which are to be used for other purposes find their way to the neckwear trade.

The designs range from the plain, conservative type to the wild, shot-about effects which are very loud and gaudy. Silk ties range in price from a "few cents" to five dollars or more. There are tie-silks and tie-silks!

TULLE: A popular silk cloth made with a delicate mesh effect. This net material is named after the city of Toul, France. When heavily sized the cloth is much used in ballet dresses, screening, and dressgoods.

UMBRELLA SILK: A plain taffeta or twilled cloth made with a fancy selvage and used for umbrellas and parasols. Roman or other stripes are often used to enliven the goods and they often are featured in the fancy selvage which is a feature of the article. Much umbrella silk is made with cotton filling in the cheaper grades.

VELOUR: French for velvet. This broad term is applied to many cloths made from any of the major textile fibers. It presents a surface somewhat on the order of a true velvet. There are many types of the cloth seen today and the term is used rather indiscriminately. Some velours seen today are velour chiffon, velour envers satin, epingle, paon, Renaissance, velour Russe, etc.

VELVET: A pile fabric made with a short, soft, thick face and a plain back. Much spun silk is used in making the material. If the pile is more than one-eighth of an inch in height the material is referred to as a plush.

VELVETEEN: A filling pile cloth in which the surface is smooth velvet without the appearance of a cord effect. The constructions are made on the order of making corduroy except that the floats of the pile are scattered instead of being arranged in a rib order.



CROW AND HERON — LOVERS IN A SNOW STORM. SUZUKI HARUNOBU (1725-1770). THE METROPOLITAN MUSEUM OF ART. RENDERED BY ALBERT CARMAN.



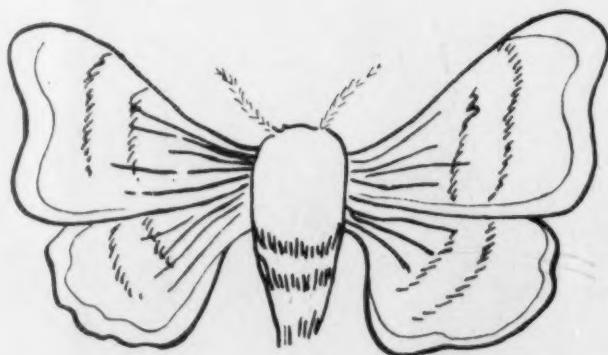


Picking leaves from mulberry trees to feed the silkworms.

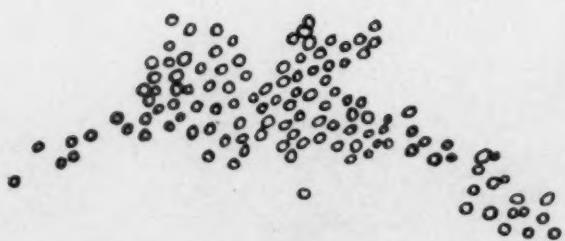


Taking cocoons from stacks where they were placed to spin, selecting best ones for laying eggs.

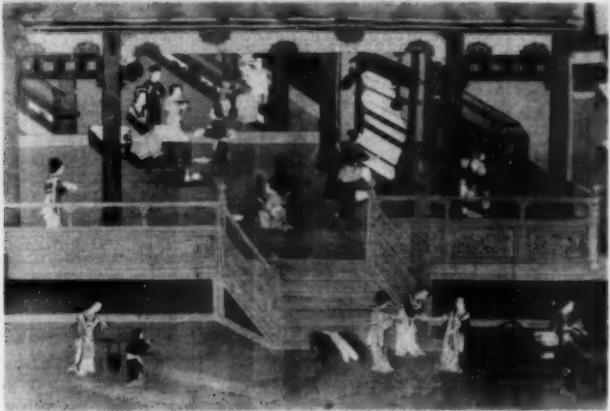
SILK MAKING



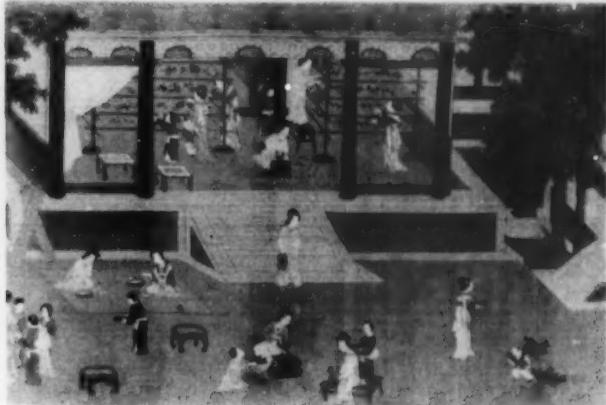
1. It all starts with the silk moth . . .



2. The silk worm's eggs. These eggs or seed are about the size of a head on a pin. Each moth deposits about 350 eggs. Each egg has a small spot on one end and when hatched the worm gnaws a hole through this spot.

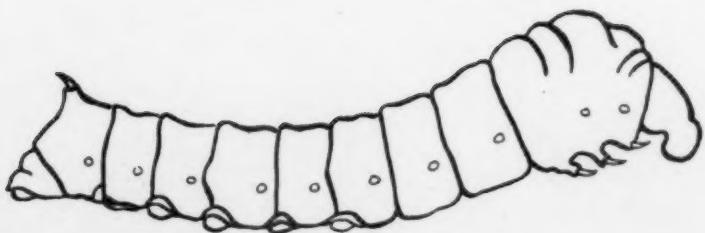


Eggs in boiling water to loosen fiber of silk. Spinning, binding into skeins, weaving on loom.



Transferring growing silkworms and cutting up mulberry leaves to feed them.

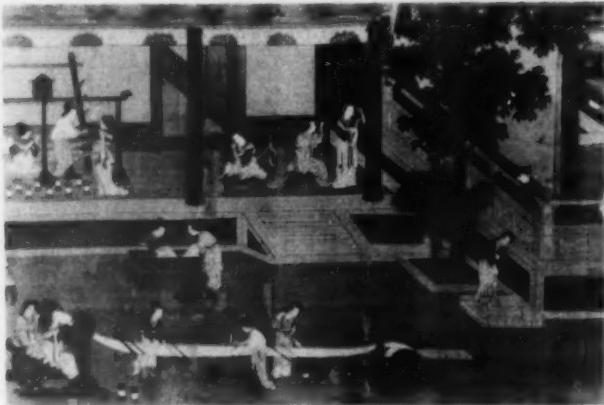
WEAVING AND STAGES IN THE LIFE



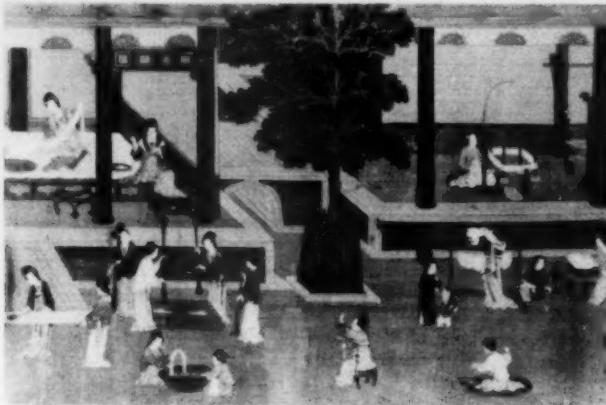
3. Three to seven days later the worm hatches out of the seed and begins to feed on the tender mulberry leaves. The worm passes through 5 stages taking about 30 days.



4. Mulberry leaf upon which the silkworm feeds.



Women washing silk and treating it with light starch.



Reeling silk, at right, and beating starched silk to smooth it.

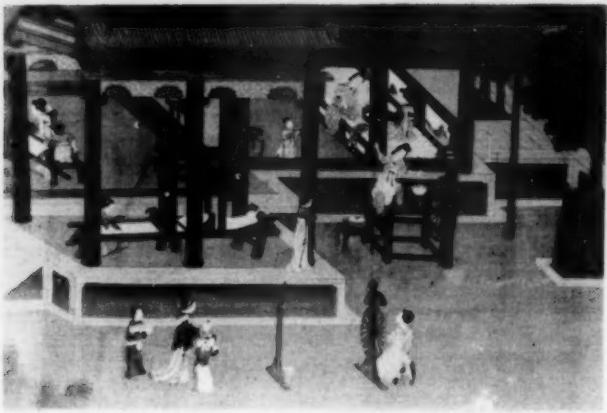
CYCLE OF A SILKWORM (*Bombyx Mori*)



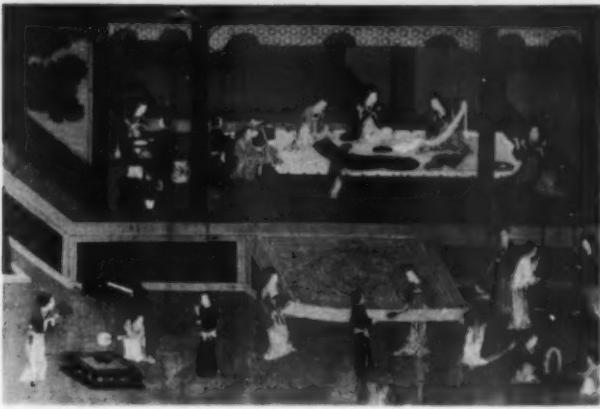
5. The worm now begins to spin itself into the precious cocoon . . . spins nearly a foot of silk a minute and in about 3 days completes the cocoon.



6. Silk moth emerging from the pierced cocoon. As soon as the full grown silk moth has mated and laid a new generation of eggs, it dies and the cycle of egg-to-silkworm-to-chrysalis-to-moth continues all over again.



Weaving silk: women in front twisting threads to make them strong.



Final operations in manufacture of silk.
"From the Chinese Painting—Silk Making"—from the collection of Philip J. Kearny, Metropolitan Museum of Art.



American Silk Mills, Inc.



C. M. Gourdon, Inc.



H. J. Stotter, Inc.



William Skinner & Sons



Cheney Bros.



Stunzi Sons Silk Co.

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Facsimiles of this chart available at \$2 each.
Address: 350 5th Ave., New York 1, N. Y.

INDIVIDUAL copies of the chart — "Life Cycle of the Silk-worm" will be sent to AMERICAN FABRICS subscribers, mailed in roll cartons, suitable for framing for showroom or classroom.

With each chart we will include an actual silkworm cocoon — tipped on the chart.

Price is \$2 for each chart; send orders direct to:
American Fabrics, 350 Fifth Avenue, New York 1, N. Y.

*Imagination and Charm Characterize the Art of
the Great Silk Producing Civilizations . . .*



Horse and Willow Tree on Silk.

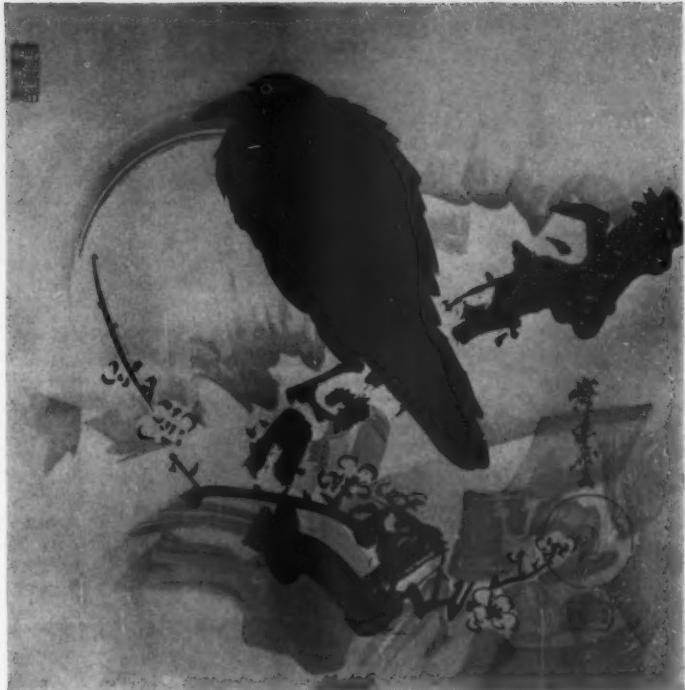


Superb modern feeling in this pen
and ink drawing by Shunsho,
1726-1792.

"Even though you have ten thousand fields, you can eat but one measure of rice a day; even though your dwelling contains a thousand rooms, you can use but eight feet of space a night." — Proverb



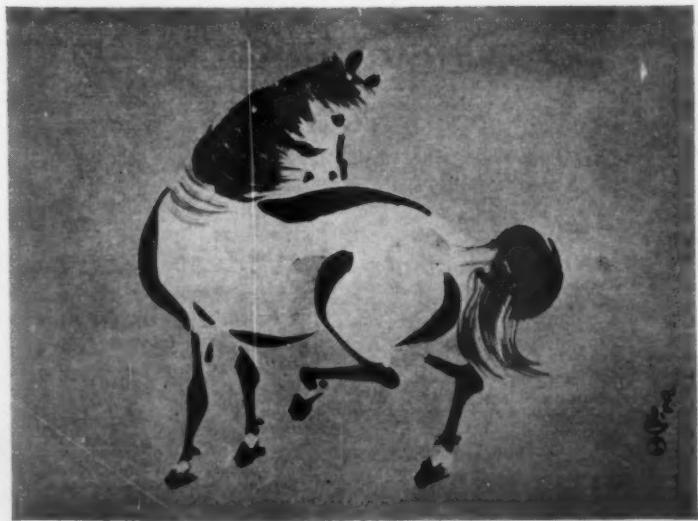
Marine Drawing — Ming Dynasty



Crow on the Pine Tree — Cleveland Museum



Landscape by Hiroshige



Ink and Wash Drawing
—Tawarayama Sōtatsu



Figure by
the great Hokusai



Flower Print, Chao-Hsieng

HOW TO WRITE A CHINESE POEM

A well-known Japanese poet was asked how to compose a Chinese poem.

"The usual Chinese poem is four lines," he explained. "The first line contains the initial phase, the second line, the continuation of that phase. The third line turns from this subject and begins a new one, and the fourth line brings the first three lines together. A popular Japanese song illustrates this."

Two daughters of a silk merchant live in Kyoto.
The elder is twenty, the younger, eighteen.
A soldier may kill with his sword.
But these girls slay men with their eyes.

REAL PROSPERITY

A rich man asked Sen-Gai to write something for the continued prosperity of his family so that it might be treasured from generation to generation.

Sen-Gai obtained a large sheet of paper and wrote: "Father dies, son dies, grandson dies."

The rich man became angry. "I asked you to write something for the happiness of my family! Why do you make such a joke as this?"

"No joke is intended," explained Sen-Gai. "If before you die your son should die, this would grieve you greatly. If your grandson should pass away before your son, both of you would be broken-hearted. If your family, generation after generation, passes away in the order I have named, it will be the natural course of life. I call this real prosperity."

THE TASTE OF BAN-ZO'S SWORD

Matajuro was the son of a famous swordsman. His father, believing that his son's work was too mediocre to anticipate mastership, disowned him.

So Matajuro went to Mount Futara and there found the famous swordsman, Ban-Zo. But Ban-Zo confirmed the father's judgment. "You wish to learn swordsmanship under my guidance?" asked Ban-Zo. "You cannot fulfill the requirements."

"But if I work hard, how many years will it take me to become a master?" persisted the youth.

"The rest of your life," replied Ban-Zo.

"I cannot wait that long," explained Matajuro. "I am willing to pass through any hardship if only you will teach me. If I become your devoted servant, how long might it be?"

"Oh, maybe ten years," Ban-Zo relented.

"My father is getting old, and soon I must take care of him," continued Matajuro. "If I work far more intensively, how long would it take me?"

"Oh, maybe thirty years," said Ban-Zo.

"Why is that?" asked Matajuro. "First you say ten and now thirty years. I will undergo any hardship to master this art in the shortest time!"

"Well," said Ban-Zo, "in that case you will have to remain with me for seventy years. A man in such a hurry as you are to get results seldom learns quickly."

"Very well," declared the youth, understanding at last he was being rebuked for impatience, "I agree."

Matajuro was told never to speak of fencing and never to touch a sword. He cooked for his master, washed the dishes, made his bed, cleaned the yard, cared for the garden, without a word of swordsmanship.

Three years passed. Still Matajuro labored on. Thinking of his future, he was sad. He had not even begun to learn the art to which he had devoted his life.

But one day Ban-Zo crept up behind him and gave him a terrific blow with a wooden sword.

The following day when Matajuro was cooking rice, Ban-Zo sprang upon him unexpectedly.

After that, day and night, Matajuro had to defend himself from unexpected thrusts. Not a moment passed in any day that he did not have to think of the taste of Ban-Zo's sword.

He learned so rapidly he brought smiles to the face of his master. Matajuro became the greatest swordsman in the land.

NO DUST

Zen-Getsu, a Chinese master of the Tan dynasty, wrote the following advice for his pupils:

When witnessing the good action of another, encourage yourself to follow his example. Hearing of the mistaken action of another, advise yourself not to emulate it.

Even though alone in a dark room, be as if you were facing a noble guest. Express your feelings, but become more expressive than your true nature.

A person may appear like a fool and yet be not one. He may only be guarding his wisdom carefully.

Virtues are the fruit of self-discipline and do not drop from heaven by themselves like rain or snow.

Modesty is the foundation of all virtues. Let your neighbours discover you before you make yourself known to them.

A noble heart never forces itself forward. Its words are as rare gems, seldom displayed and of great value.

To a sincere student, every day is a fortunate day. Time passes but he never lags behind. Neither glory nor shame can move him.

Censure yourself, never another. Do not discuss right and wrong.

Some things, though right, were considered wrong for generations. Since the value of righteousness may be recognized after centuries, there is not need to crave an immediate appreciation.

Live with cause and leave results to the great law of the universe. Pass each day in peaceful contemplation.

PUBLISHING THE SUTRAS

Tetsu-Gen, a devotee of Zen in Japan, decided to publish the Sutras, which at that time were available only in Chinese. The books were to be printed with wood blocks in an edition of seven thousand copies, a tremendous undertaking.

Tetsu-Gen began by travelling and collecting donations for this purpose. A few sympathizers would give him a hundred ryo, but most of the time he received only small coins. He thanked each donor with equal gratitude. After ten years Tetsu-Gen had enough money to begin his task.

It happened that at that time the Uji river overflowed. Famine followed. Tetsu-Gen took the funds he had collected for the books and spent them to save others from starvation. Then he again began his work of collecting.

Several years afterwards an epidemic spread over the country. Tetsu-Gen again gave away what he had collected, to help his people.

For a third time he started his work, and after twenty years his wish was fulfilled. The printing blocks which produced the first edition of Sutras can be seen to-day in the Obaku monastery in Kyoto.

The Japanese tell their children that Tetsu-Gen made three sets of Sutras, and that the first two invisible sets surpass even the last.

TIME TO DIE

Ikkyu, the Zen master, was very clever even as a boy. His teacher had a precious teacup, a rare antique. Ikkyu happened to break this cup and was greatly perplexed. Hearing the footsteps of his teacher, he held the pieces of the cup behind him. When the master appeared, Ikkyu asked, "Why do people have to die?"

"This is natural," explained the older man. "Every thing has to die, and has just so long to live."

Ikkyu, producing the shattered cup, added, "It was time for your cup to die."



A study — Hokusai.

TEMPER

A Zen student came to Ban-Kei and complained, "Master, I have an ungovernable temper. How can I cure it?"

"You have something very strange," replied Ban-Kei. "Let me see what you have."

"Just now I cannot show it to you," replied the other.

"When can you show it to me?" asked Ban-Kei.

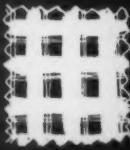
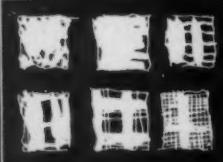
"It arises unexpectedly," replied the student.

"Then," concluded Ban-Kei, "it must not be your own true nature. If it were, you could show it to me at any time. When you were born you did not have it, and your parents did not give it to you. Think that over."

CHECK LIST FOR MANUFACTURERS' PIECE GOODS BUYERS

Dr. George E. Linton, American Fabrics editor, suggests the following form for manufacturers and piece goods buyers. It will help to provide professionals with a quick, handy yard stick for judging and evaluating fabrics both before and after commitments have been made.

1. Name of Cloth
range of colors
2. What Season
fall
winter
spring
summer
3. What price range
4. Raw Material
 - a. Warp is
 - b. Filling is
5. Construction
 - a. Weave?
 - b. Texture-ends and picks per inch
 - c. Is the texture high, or low, or medium?
 - d. Weight in ounces per yard?
 - e. Finished width?
6. Methods of Coloring
 - a. Is cloth dyed, printed or in the white?
 - b. If colored, what method was used?

CHECK LIST		
	NAME OF CLOTH FABRIC CONSTRUCTION	
1	.....
2	.....
3	.....
4	.....
5	.....
	6	.....
	7	.....
	8	.....
	9	.....
	10	.....
	11	.....
	12	.....
	13	.....
	14	.....

A check list for each fabric purchase.

7. Finish of the Material
 - a. What type of finish has been applied to cloth?
 - b. Is the finish permanent or temporary?
8. End Uses
 - a. May be used for
9. Working Properties of Cloth
 - a. Handle or feel?
 - b. Drapeability?
 - c. Hold crease?
 - d. Shine with wear?
 - e. Clinginess?
 - f. Sagginess?
10. Manipulation
 - a. In cutting?
 - b. In fitting?
 - c. In sewing?
11. Launderability
 - a. Easy or difficult to launder?
 - b. Will cloth have tendency to shrink?
 - c. What is the effect of laundering on the finish?
12. Cleaning
 - a. Will it be necessary to have the cloth dry cleaned after usage?
 - b. If so, will the fabric clean well?
13. Cost
 - a. What is the estimate of the cost per yard of cloth based on
a inch width?
\$.....
14. Fashion Check
 - a. Staple
 - b. Classic
 - c. High fashion
 - d. Comment
15. Selling points for advertising and sales staff.....
16. Additional comments



Henry L. Jackson says:

{ WATCH WHITE for summer 1948 and summer 1949 . . . in rayons, linens, Palm Beaches . . . in lightweight shetland jackets, in gabardine jackets, gabardine and flannel slacks . . . and WATCH BLUE . . . tremendously important for fall in unfinished worsteds, clear finished worsteds and flannels . . . and in cheviots for overcoats.

**AMERICAN FABRICS — THE BASIS OF THE
AMERICAN MALE'S WARDROBE** 

AMERICAN FABRICS—THE BASIS OF THE AMERICAN MALE'S WARDROBE

Architect: Henry L. Jackson, Men's Fashion Editor

**The
Basic
Plan**



1.



2.



3.



4.



5.



6.



7.



8.

Second Addition — The Social Ell



9.



10.

the basic plan

1. BASIC GRAY FLANNEL SUIT
2. BASIC SHETLAND SPORTS JACKET
3. BASIC SUMMER SUIT
4. BASIC TWEED COAT

the week-end away

5. COTTON GABARDINE RAINCOAT
6. COVERT TOPCOAT
7. ALPACA-LINED STADIUM COAT
8. CAMEL'S HAIR POLO COAT

the social ell

- 9, 10. SEERSUCKER AND CORDUROY — LOW PRICED FABRICS FOR THE FASHION PACEMAKER.

the glamour ell

11. TROPICAL WORSTED (BLACK TIE)
12. 14 OZ. MIDNIGHT-BLUE WORSTED (WHITE TIE)

the mortgage

13. FOR THAT WEST INDIES TRIP



13.

Fourth Addition — The Mortgage

Third Addition — The Glamour Ell



11.



12.



Green and white urn, Terpsichore and Apollo, Jasper designed by John Flaxman in 1777.



Throwing room at Etruria in 1790, around the time of the perfection of the famous Jasper ware.



Black and white Jasper vase, presented to H. M. Queen Mary in 1939.

300 YEARS OF WEDGWOOD COMES TO BROOKLYN

A virtual history of ceramics is told by the accomplishments of ten generations of one family currently being shown at the Wedgwood Exhibition at the Brooklyn Museum. Consisting of over six hundred pieces it tells the story of Wedgwood from the days of Gilbert, first Wedgwood potter working at his crude handicraft in 1649, to the vast industry which employs every modern technique in the manufacture of pottery in 1948.

It was in "useful" ware that Wedgwood first became known. Experiments made during the latter part of the eighteenth century on the improvements of quality and design of cream-colored earth-

before. Wedgwood used it both for "useful" ware and for large relief plaques, vases, busts, medallion portraits, seals and small intaglios. It formed also the ground on which he executed classical "encaustic" paintings with a special palette of enamel colors that gave a matt surface when fired, and produced a similar effect to that of the old Greek and Etruscan vases.

On the eve of his introduction of the famous Jasper ware, Josiah Wedgwood wrote of his other wares (1773): "The Agate, the Green and other colored glazes have had their day, and done pretty well, and are certain of a resurrection soon, for there are and ever will be a numerous class of people to purchase shewy and cheap things. The Cream Color is of a superior class, and I trust has not yet run its race by many degrees. The Black is sterling and will last forever." His prophecy was remarkably accurate, though a little unfair to the green glaze and cauliflower—and a considerable understatement as regards the cream color.

Wedgwood Jasper, on which, in the public mind, Wedgwood's fame probably rests, may be said to have been invented in 1774. It was the result of a tremendous series of experiments. Those of his trial pieces that have been preserved run to over ten thousand, and Josiah himself regretted bitterly that he had not kept his earlier trials. Jasper is a fine semi-porcelain body; it was made in all shades of blue and green, as well as in black and white. Wedgwood himself, who knew the labor of its invention and the difficulties of its manufacture, prized the Jasper above all his other productions. And potters and collectors ever since have valued Wedgwood Jasper both as a triumph of technique, and as a form of ornament.

The Wedgwood Influence

In 1790, after four years of experiment to get the correct color, surface and texture, Wedgwood was able to say that he had succeeded. The number of copies made by Wedgwood is uncertain but there is evidence of twenty-six subscribers, the price varying apparently between twenty and thirty guineas. Replicas have often been made since by the Wedgwood firm.

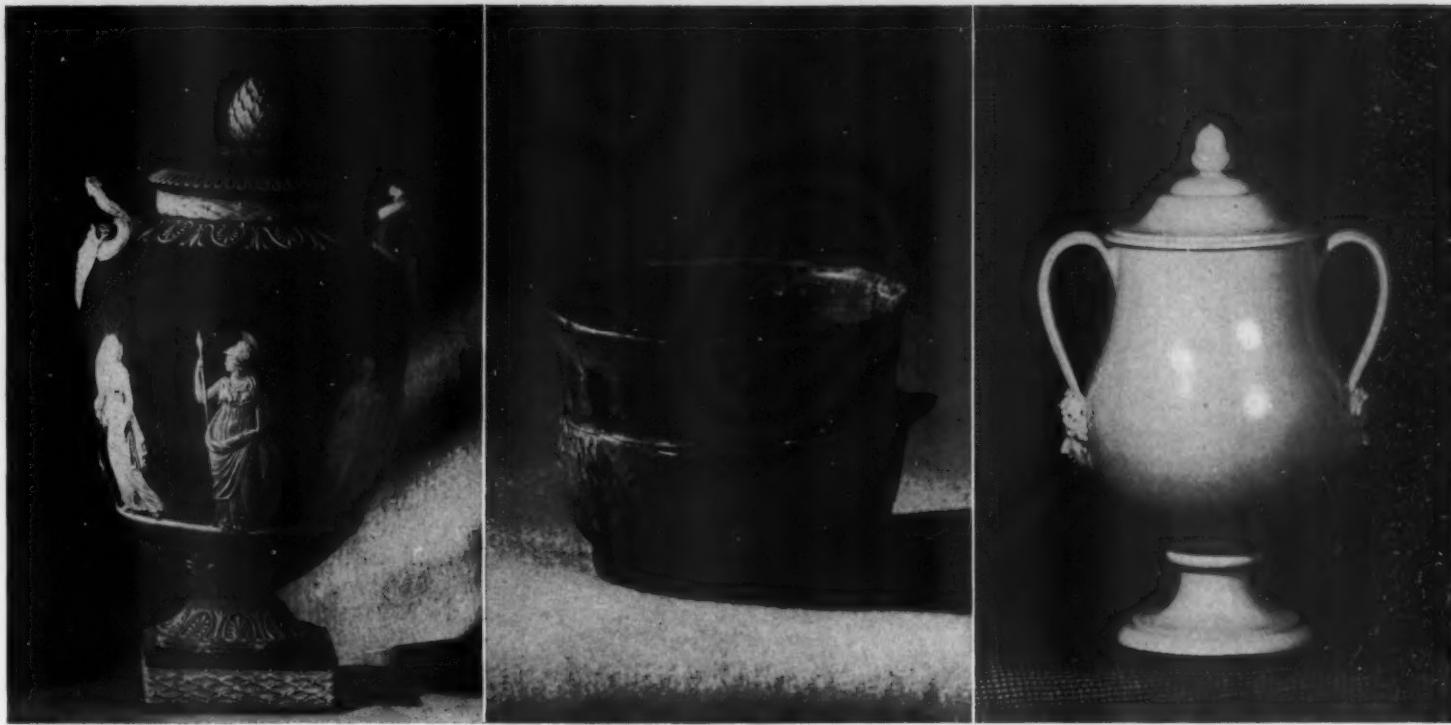
Wedgwood himself would never have wished to have been



Wedgwood's copy of the Portland Vase. Arrowed right (329) is the only cast made from the original vase. Other arrows indicate casts omitted from exhibit because of fragility.

eware can be seen in almost all English earthenware today. The ware was decorated then, as now, either by printing or by painting with enamels or by a combination of both.

The first ornamental ware to be developed was that which Josiah I (fifth in the line of Wedgwoods) called "black basalt"—a refinement of what Staffordshire potters had previously made in a cruder form under the name "Egyptian Black." The new black was richer in hue, finer in grain, and smoother in surface than any black made



Jasper vase, the Judgment of Paris, 1920.

Queensware bowl, slip glaze, yellow and brown.

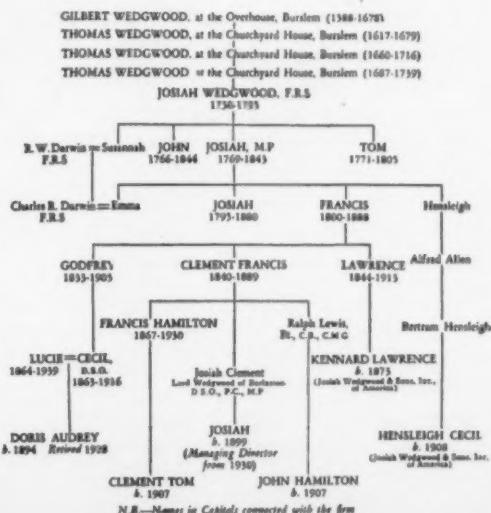
Vase and cover in cream-color lead glaze, 1768.

acclaimed as a great artist. But some part of his greatness as a man and a potter lay in his appreciation of the value of the contribution that the artist could make to industry, and his determination to secure the services of the best artists of his time. It is evident also that he himself was an artist in his own material; he possessed the born craftsman's eye for a good and serviceable shape and knew the value of restraint in design and ornament.

His public and private acts testify also to the warmth and generosity of his disposition. He was a great business man, but not a mercenary one; and devoted himself to his work for its intrinsic interest or for the sake of achievement rather than for private gain alone. "So far from being afraid of other people getting our patterns," he once wrote, "we should glory in it, throw out all the hints we can and if possible have all the Artists in Europe working after our models."

Josiah Wedgwood passed away on January 3, 1795. His epitaph read: "He converted a rude and inconsiderable manufacture into an elegant Art and an Important part of the National Commerce."

TEN GENERATIONS OF WEDGWOOD POTTERS



Sandwich set in Queensware, 1776.

Oval meat dish in Queensware, blue, black and white. 1856.

Painting set in Jasper ware. 1782.

Letter to the Editor

"I am an artist primarily interested in the design phase of fabrics. How does the artist contact the manufacturer to know what sort of thing the various factories want? And where and how to send (not take) projected designs? If you could answer these questions in some way more good designs might reach the market."

Jane Pinheiro, Lancaster, Cal.

The Editors Reply . . .

HOW TO PRESENT A FABRIC DESIGN

Facts that every designer should know about

submitting designs to stylists and fabric houses.

Dear Jane Pinheiro:

Although it is usual for a fabric house to contact a designer in whom they are interested, giving her such information as the type of design required, the number of colors to be used, whether it is to be a screen or a roller print, etc., etc., a fabric stylist will always find time to consider free lance work whether it is submitted personally or by mail.

As a free lance designer you may submit designs to any of the fabric houses, bearing in mind the following points:

1. Out-of-town designers should write to the converters to whom they would like to sell designs, explaining the type of sketches they have for sale. Another approach is to write asking what type of design the converters want and if they are willing to consider free lance work.

2. Designs should never be sent to a converter without a preceding letter. Converters do not wish to be put to the trouble of returning drawings for which they have no use.

3. When, having invited the submission of sketches, a converter receives designs through the mail, he will either buy them or return them with a letter of explanation and criticism or suggestions for improvement.

4. Designers should send all sketches in croquis form (i.e. in detail). These are sometimes executed with dye instead of paint

to achieve clearer, fresher colors. Fabric houses will accept designs done directly on white paper or on tissue paper mounted on heavier paper. Designers should submit one motif—never a repeat.

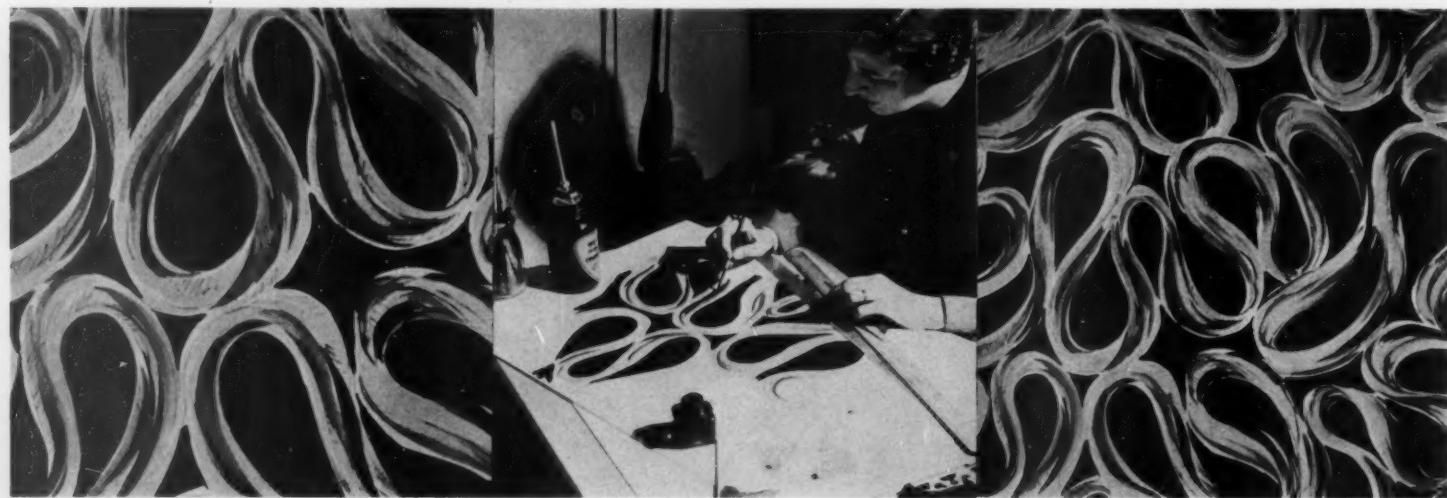
5. If design is purchased, the stylist will make suggestions to the designer as to how the repeat should be carried out. She will give directions about width, and whether it is for screen or roller print.

6. Color combinations are done either by the designer or by the fabric house's artists, and only a portion of the design is used for working out these contrasts. It is very important for designers to submit croquis in the clearest, most effective colors because a poor, washed-out color combination can ruin a fine pattern.

7. The price a fabric house pays for a design depends on the labor involved. More is paid for a small repeat with intricate detail than for a large but simple monotone. The average price for a design is approximately \$50 to \$100 for the copyright for black and white, ten per cent higher for color.

8. Many a good design from an artistic standpoint is impractical because of technical difficulties in reproduction. It is well to remember that a beautiful painted design does not necessarily produce a beautiful printed design.

Sincerely,
THE EDITORS



Original croquis submitted by the designer.

Fabric house artist works on repeat and colors.

Design in repeat ready for screen printing.



EVERY WOMAN'S BEST COLOR IS IN FASHION . . .

A MANUAL AND A GUIDE FOR STORES

Every color can be used by everybody—in the right variation—says Howard Ketcham, Consultant Editor on Color. The problem is to select apparel, accessories and cosmetics keyed in color to the hair, complexion, eyes and personality. Every manufacturer, every buyer and every sales person can profitably study this guide to color relationships.

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submitting designs to stylists and fabric houses.*

Dear Jane Pinheiro:

Although it is usual for a fabric house to contact a designer in whom they are interested, giving her such information as the type of design required, the number of colors to be used, whether it is to be a screen or a roller print, etc., etc., a fabric stylist will always find time to consider free lance work whether it is submitted personally or by mail.

As a free lance designer you may submit designs to any of the fabric houses, bearing in mind the following points:

1. Out-of-town designers should write to the converters to whom they would like to sell designs, explaining the type of sketches they have for sale. Another approach is to write asking what type of design the converters want and if they are willing to consider free lance work.

2. Designs should never be sent to a converter without a preceding letter. Converters do not wish to be put to the trouble of returning drawings for which they have no use.

3. When, having invited the submission of sketches, a converter receives designs through the mail, he will either buy them or return them with a letter of explanation and criticism or suggestions for improvement.

4. Designers should send all sketches in croquis form (i.e. in detail). These are sometimes executed with dye instead of paint

to achieve clearer, fresher colors. Fabric houses will accept designs done directly on white paper or on tissue paper mounted on heavier paper. Designers should submit one motif—never a repeat.

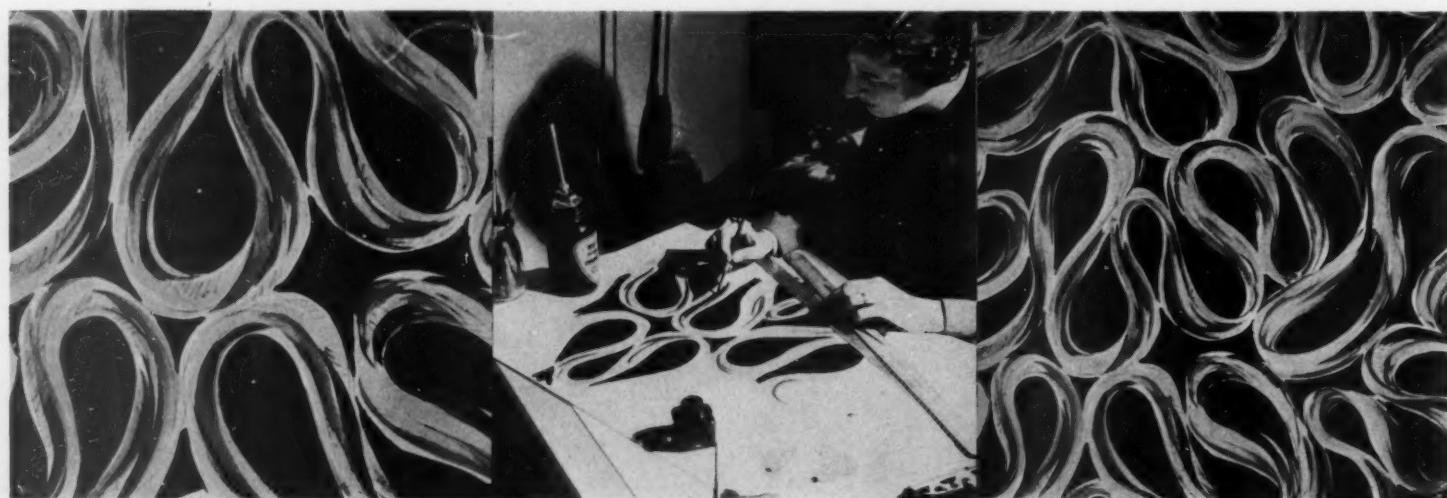
5. If design is purchased, the stylist will make suggestions to the designer as to how the repeat should be carried out. She will give directions about width, and whether it is for screen or roller print.

6. Color combinations are done either by the designer or by the fabric house's artists, and only a portion of the design is used for working out these contrasts. It is very important for designers to submit croquis in the clearest, most effective colors because a poor, washed-out color combination can ruin a fine pattern.

7. The price a fabric house pays for a design depends on the labor involved. More is paid for a small repeat with intricate detail than for a large but simple monotone. The average price for a design is approximately \$50 to \$100 for the copyright for black and white, ten per cent higher for color.

8. Many a good design from an artistic standpoint is impractical because of technical difficulties in reproduction. It is well to remember that a beautiful painted design does not necessarily produce a beautiful printed design.

Sincerely,
THE EDITORS



Original croquis submitted by the designer.

Fabric house artist works on repeat and colors.

Design in repeat ready for screen printing.



EVERY WOMAN'S BEST COLOR IS IN FASHION . . .

A MANUAL AND A GUIDE FOR STORES

Every color can be used by everybody—in the right variation—says Howard Ketcham, Consultant Editor on Color. The problem is to select apparel, accessories and cosmetics keyed in color to the hair, complexion, eyes and personality. Every manufacturer, every buyer and every sales person can profitably study this guide to color relationships.



Howard Ketcham, AMERICAN FABRICS' consultant editor on color,

**maintains that every color can be used by everybody—in the right variation—
and that every woman's best color is in fashion**

A girl with pallid complexion objected bitterly when her "charm school" instructor urged her to cut down on her heavy use of cheek rouge. "I'd look like a ghost, with my skin," she moaned. "Just for a moment now, let's see you without any make-up," said the instructor quietly, removing from a cabinet drawer a bright blue-green scarf and draping it about the girl's neck. Her skin seemed suddenly to glow. "More than one way to get color," the instructor remarked, gently.

There are, indeed, a number of ways for women to bring out the best in coloration in their complexion, their hair, or their eyes. Selection of the right color for dresses and accessories is fundamental. So too are the proper accent colors, and the color of make-up can make or break the overall result.

Optical illusions, you'll notice, can work for or against a woman. The blue-green scarf near the pale cheek brings out a rosy after-image, as effective as rouge. But in some cases, the qualities of the skin would cause a reflection of the scarf color, instead of an illusory after-image of the complementary hue. It all depends upon the individual.

That's why selection of a woman's winning colors is a personalized problem for which some general rules may apply, but which defies broad systematizing as attempted in many places a decade ago.

Any woman may wear any color—but within certain limitations. She must have the proper variation of the color to suit her own coloration. And she must combine it with suitable harmony or contrast colors in her ensemble and make-up.

Women can improve their appearance and successfully use colors they now fear IF they select the right variation in each color family, correctly light or dark, pure or grayed . . . IF they base the selection on complexion, hair and eye color, on figure and on the personality and the mood they wish to create . . . and IF they use it properly in the basic costume, in tiny splashes of trim, in accessory or jewelry, or in other accent applications.

When it comes to the actual selection of the wardrobe, the individual is the key to the correct choice. All apparel colors are modified by their relationship to other colors in the ensemble, to the coloration of the wearer, and to the color induced by facial make-up. The accompanying illustrations (Figures 4 and 5) show how one color alters the appearance of another.

For this reason, the saleslady must play a leading role in color styling for the customer. Her guidance in the simplest and surest of all tests—judging the effect of a fabric color held against the skin—is the factor which can make selection of fabric or apparel color a wise or an unfortunate choice. When she lacks the color information that the customer needs, both fabrics and apparel industries suffer.

Color for the Individual

A Fifth Avenue department store once assigned a colorist to observe the apparel worn into the store by its customers. Out of

over 1,000 women observed—and these were women who had put effort and money into the art of dressing—the colorist reported that practically everyone wore one or two apparel or accent colors unsuited to the ensemble, or to the hair color, complexion or eyes. Why?

There Are Browns and Browns

I once asked a woman with striking silver hair why she chose the brown, smartly-tailored outfit that she was wearing. To my eyes—unfortunately analytical on matters of color, depriving me often of much pleasure in the observation of well-groomed friends—there was a tell-tale yellowish cast to her complexion and even to her hair.

"Why, brown is the fall color," she explained, "and this is the brown for this year! Besides, my husband is fond of brown."

Far be it from me to dispute the desire of any woman to dress to please. But there are browns and browns—and that lighter brown whose undertone is yellow rather than red holds danger for the woman whose skin is beginning to show a slight yellowish tinge.

The silver-haired woman could wear autumn brown, for example, in a dark value and a hue in the red-brown end of the color family. At the very least, having the light brown outfit, she might counteract the yellowing effect of age on the skin by using a bluish hue of red in her lipstick.

Color Makes the Difference

The older woman isn't the only one who must "color with care."

I remember a beautiful ash-blond graduate of one of our better Eastern women's colleges, who came to New York City to make her bid in the magazine world a few years back. She favored a variety of bright yellow pastels in her wardrobe—"Gay colors suit my mood, like daffodils!" she explained once. Actually, with her pale skin, the color made her look a bit ill. Now she's a success in her field, however, poised and color-wise. And she's learned to color the part.

Faint blues, dusty mauves, rose—all the softer colors in grayed tones impart to her delicate coloring the appeal of a Dresden china doll. But for a change of pace she's learned to return to her favorite color family—yellow, in a special soft and subtle bronzed shade that brightens the glow of her hair.

A woman is often betrayed by her abstract liking for a color, or her memory of a much-admired childhood dress which makes that hue her lifelong favorite.

We all know the lively girl who thinks she isn't at her best unless there's a flash of exciting red in her get-up. It's all very well for her to give red its proper place. But if she's a ruddy blonde, and uses most types of red close to her face—it will make her look apoplectic! What price "that vital color" if your friends think your face is flushed!

The well-dressed woman will use color in her wardrobe and grooming as a tool to set off her own coloration, not as a concession to a whim. And when the abstract color she likes best turns out to be the color which is most becoming to her, we may reasonably

suspect that it's because she knows enough about color application to recognize and admire a friendly hue!

Helping Women Choose Colors

Women in the United States today know more about color than ever before. They know what they like and want — they've told us what colors to use in trains, home furnishings and hosts of other items. But they can be sold a well-promoted idea in color — regardless of its value to them.

The fashion industry has well-informed people at work developing new colors and applying them to new styles — but at point of sale there is a gap. A promotional color will be pushed as soon as the customer shows the tell-tale evidence of liking it.

And who can blame the saleslady? She generally has no color facts to work with other than the customer's expression of preference. One year a well-promoted yellowish-green named "Artichoke Green" was widely purchased by blondes — for whom the color was NOT intended — with such unfortunate results that the stylists had to drop the color.

It would hardly seem true from examination of today's advertising, but more women suffer socially from incorrect apparel color than from lack of fragrance. The fashion industry, by emphasizing "*our colors*" and "*our styles*" instead of "*your color*" loses a golden opportunity to play convincingly on that most effective theme: "*You* can be beautiful."

I remember once when a daring male speaker opened an address before a fashion group by saying, "Right now 15 million American women are excited about the coming fashion colors, and 14 million are buying the wrong clothes!" It created a stir. But since we spend two-thirds of our time wearing them, it's a wonder that color selection in clothing has not been nailed down to fact more closely.

In 80 per cent of American homes some home-made apparel is worn. Twenty-five million American women sew. How much more satisfaction they'd obtain with more help on choosing their colors!

But in the fashion world, only the make-up companies have seriously attacked the problem of personalized correct color selection. One leading cosmetic house has coded its new make-up aids to the different hair-color types, adjusting the make-up hues to different dress colors for each. The cosmetics industry may well do so — American women budget 900 millions a year for make-up and spend another \$2,500,000,000 in beauty parlors.

But the 2,000 tons of rouge that American women use each year are wasted if employed without relation to individual problems of coloration.

And the 22 billions that are spent on clothing, accessories and jewelry are poured out in vain if women fail to "color up" to their own individual needs.

Color and Complexion

Some say the most important single factor in choosing a woman's apparel colors is her complexion.

Two raven-tressed beauties, one a fair-skinned and blue-eyed Irish colleen, and the other an olive-tinted, dark-eyed Neapolitan, require greater difference in their ensemble colors than blonde and brunette whose skin tones are alike.

The basic objective in selecting apparel colors — particularly those worn near the face — is to avoid those which tend to make the skin appear cloudy. The problem is similar to that faced in mixing paint pigments: some combinations resolve into beautiful color mixtures, and others produce a muddy, meaningless result. The illustration shows how, as color mixtures fan out from the primary colors, a grayed color emerges.

As a general rule, it may be advised that a woman select a fabric color that coincides with the dominant skin tone, or else use

one that provides startling contrast, to avoid this muddy, gray effect. The choice is largely based on the tendency of her skin to reflect the fabric color, or to show an after-image of its complement.

The color-wise will judge the effects of a color against the skin to determine the results. A helpful practice is to test the effect of a fabric color by holding it against a piece of white paper. In this way it may readily be noted whether the color reflection on the paper is sympathetic to the customer's skin. The technique is a popular device in planning costumes in Hollywood.

The effect of color on the skin may be noted by staring at the red square in the accompanying illustration. After fifteen seconds you will note that the eye picks up a greenish after-image when you shift and hold your gaze to the black spot below. Similarly, opposite colors in the color-wheel in the illustration are complementary; stare fixedly at any one of them and you will see the opposite color when you hold your gaze to the white margin. These are after-images a dress color may cause.

Use of these color complements together is one of the five methods of obtaining color contrast as described in a previous issue of AMERICAN FABRICS. You can control effects on complexion colors by seeing that fabric and skin color comply with one or more of the five contrast classifications: color and its complement, light and dark color, cold and warm color, pure and grayed color, and large and small areas of color.

The color law of simultaneous contrast applies in the selection of variations of any two complementary color families to flatter the complexion. *Adjacent areas of strong color make each other appear more brilliant.*

For example, a brunette with rich pink complexion may wear red with impunity.

We mentioned the ruddy blonde whose complexion is heightened too strongly by most vivid reds. A brunette with the same complexion may wear any red, light or dark, grayed or pure — the contrast with her hair prevents too great an emphasis on the skin tone. And a brunette of pale complexion would be limited to certain variations of pure red ranging from pink to maroon in lightness or darkness, avoiding the dull grayed variants which lack contrast with her skin. These latter would create a "pasty" effect.

In general, skin types may be grouped into four complexion classes. These groups, and the basic dress colors best suited — in correct variations — to each are:

1. PINKISH OR WHITE COMPLEXION: Pink, beige, wine, scarlet, yellow, red and green fabrics. With a rosy complexion, black is particularly becoming. Where the skin lacks rich bloom in coloration, black is unbecoming because it tends to bleach by contrast. White complexions, when endowed with red hair, can wear wine and orange dress tones advantageously.
2. CREAMY, YELLOWISH OR OLIVE SKIN: Violet, blue, lilac and chartreuse.
3. GREENISH: Pink, green, orchid and lemon.
4. PURPLISH OR SWARTHY: Golden yellow, white, purple and rust.

Complexion and Cosmetics

A recent bride, wearing an orchid corsage on the shoulder of her dinner gown, was asked by guests at a dinner party if she felt ill. They noted a greenish tinge to her complexion. One young matron in the party whisked her aside and thrust compact and lipstick at her, urging "Use these — luckily my shades will help you!" Purplish hues in the make-up banished the yellowish-green after-image, drawing support from the color of the corsage.

Women have known since the earliest historical times how to heighten their charms with make-up. The ancient Egyptians used the green mineral, malachite, both to protect the eye from sun-glare and to give a glow to the small eye typical of the Egyptian

(please turn page)

Every Woman's Best Color is Fashionable (continued)

countenance. The Greeks used saffron for eye-shadow, fucus for rouge. And today American women spend \$100,000,000 on lipstick and face powder alone, and average \$15 a family on all make-up preparations.

Different firms in the make-up field employ varied approaches in recommending colors for the individual. Some relate the make-up to the fabrics colors of the ensemble; some to the hair color; others to complexion. A well-rounded judgment will take all these factors into consideration, and for proper grooming a woman will change her make-up with each dress color. Only now are women learning to do this.

But the shrewd saleswoman in the apparel shop may often clinch a sale by bringing out an item in a fabric color that suits the lipstick and rouge the customer is wearing. For example, a woman wearing rouge in a bluish tone will look better in a dress that is lighter than the color of her lipstick.

Of course, it is thinking backwards to select the dress to go with the make-up! But it is a powerful lever to sales!

Make-up and Fashion

Many make-up houses make it their business to follow the new fashion colors with changes in their own color styling, and the big problem is to convince women that they must change the make-up kit with the new wardrobe. In doing so, the simple laws of color harmony must be applied.

Generally speaking, orange lipstick tints are best for blondes and redheads, with the latter employing an added element of yellow. Brunettes require darker, more purplish hues. The silver-haired are best suited in brownish red lipstick tones. These colors harmonize with the complexion colors most favorable for the typical blonde, brunette or redhead.

Lipstick worn with a red dress must be chosen carefully to prevent a clash of reds. Where a lipstick is lighter and purer in color than the hue of the dress, it should have a tinge of yellow to prevent a discordant note. With a very dark red dress, the lipstick should be in the same hue but a lighter value.

Rouge should be slightly bluish to go with a bright blue dress, or brownish or orange for a fall brown.

All applications of rouge and lipstick for use under artificial light should be heavier, and the intensity of red-purple rouge should be greater for use under incandescent light, since this illuminant has a graying effect upon all blues.

American women invest \$25,000,000 annually in nail polishes, and our cult of the "soft white hands" provided GI's with one of the best war-time chuckles furnished by "Yank." Although nail lacquer colors are generally selected for similarity to rouge and lipstick colors, there is growing appreciation of relationship of nail tint to the hand. For long, tapering fingers, rich tints are best; for plump, soft little hands, the subdued "dark and smoky" shades are preferable; and for the victim of "rough, dishwater hands," a modest hue is advised, to call little attention in that direction.

It is the task of make-up not only to bring out the coloration of the skin or eyes, but to counteract the effects on the skin of costume colors. For example, a blue dress may produce an orange after-image in a high-neckline model, but a purplish or reddish blue lipstick and rouge will balance off this effect. The red of a lipstick and rouge matching a red dress will tend to relieve the green tinge caused by reds near the face. And the yellow-green caused by purple in scarf or collar will be offset by purple-blue or red-purple make-up.

Hair Color and Fabrics

The importance of hair color in selecting apparel fabrics colors is shown in a study made for a leading hair-rinse company. A

group of 50 men were asked to judge the ages of a group of women whose hair had been dyed gray. They guessed at 35 to 45 years of age. The woman's hair was allowed to recover its natural color, and 50 men took the same test some time later — and estimated the women to be from 23 to 32.

The hair color was the most noticeable feature, and the habit of associating gray hair with advancing years was so strong that the condition of skin complexion, figure and dress only partly modified the original impression.

In selecting colors to go with the tresses, we have an endless — and disputable — variety of hair tones to classify. One company in the hair rinse field breaks down the variations into 18 categories. These include:

- | | |
|--------------------|----------------------|
| 1. Deep Black | 10. Golden Blonde |
| 2. Black | 11. Reddish Blonde |
| 3. Darkest Brown | 12. Golden Brown |
| 4. Dark Brown | 13. Auburn |
| 5. Light Ash Brown | 14. Dark Auburn |
| 6. Dark Ash Brown | 15. Light Brown |
| 7. Ash Blonde | 16. Brown |
| 8. Blonde | 17. Light Warm Brown |
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Since we are going to consider so many other factors in connection with hair colors, it is best to use only five basic classifications: blonde, brunette, medium brown, red-haired, and silver-gray. In application, we adapt the rules to the in-between types.

For the Blonde

The blonde is fortunate — she faces fewest color restrictions. She may wear deep tones, soft tones, pastels — anything but the brilliant overpowering variations of color families. Dark blues, rusts, and wines are her delight; black is good only if her natural coloring is strong; her best greens are those with a yellowish cast. Her best reds avoid the weak chromas, also the orange and yellow variations. And gray is a dead loss — at night, the pale blonde is all but invisible!

The lighter the blonde hair the darker the value in proper color that should be worn. A small area of strong color balances a large area of subdued color. A smart touch of scarlet gleams vividly against a maroon background.

For the Brunette

The brunette has a wide range of choice. The only color she need really fear is a certain type of yellowish brown, which can give her complexion a sickly pallor. The light value pastels are her special dish; she fares better in primary blue than in navy, and copper brown is more effective for her than black. The warm medium tones of various colors give her a glow, and the deeper shades of red or blue or brown have a subduing effect on the appearance.

The darker brunette is most striking in vivid hues such as: poppy red, jade green and bright yellow, and she can wear the darker shades with great success.

There are more variations in the brown hair category than in any of the other types, and it is, therefore, more dangerous to generalize. The particular version described often as "mousy" is further deadened by grays and beiges, and is improved by rich blue-greens and purples, or by (graved) chartreuse and olive.

The red-head is a *rara avis*, for the proportion of red hair in our population is one in 4,000. Most red fabrics colors will detract from the redness of her coiffure, but a brownish red may be worn successfully, and for some complexions a deep ruby is flattering. Cool dark greens and blues, in the dusky values, are her best selections, with deep green better than Irish green. In general, deep shades and luminous pastels are good, while intense primary colors are trying to the red-head's coloration.

A pink dress may give red hair a yellowish tinge unless it is
(Continued on page 103)

LADY, BEWARE!—Colors to avoid!

HAIR COLOR	COLOR	VARIATIONS TO AVOID
BLONDE	<i>Red</i>	Light intense reds, grayed reds
	<i>Yellow-Red</i>	Intense yellow-red, intense yellow-red of medium value
	<i>Yellow</i>	Dark intense yellows

CAN YOU BELIEVE
YOUR EYES?



A



B

Is the Yellow Advancing or Receding? How about the Blue?

Some colors are described as "warm" or "advancing," while others are "cool" or "receding." The "warm" colors are friendly and gay, and have a tendency to increase your apparent size, particularly in the lighter variations of warm hues. A hue in which red or yellow appears is likely to add an appearance of greater bulk. Cool colors, which contain blue, are slenderizing, particularly in the darker shades.

In this illustration, note how the yellow circle in "A" appears to be in front of the blue circle. Reversing the colors in "B," makes the circle in advancing yellow appear to be in front of the circle of receding blue.



BRIC COLOR AND MILADY'S HAIR, EYES COMPLEXION



— Illustration, courtesy Helena Rubinstein, Inc.

HAIR, RANGING in hue from golden to yellow-brown and in purity from light to grayed yellow (ash), offers subtle effects in pastels, dramatic magenta, contrast through use of darker or lighter color tones. Golden-brown hair allows the largest choice of fabric colors, subtlety pinkish hues, dramatic power from cardinal and guardsman blue. Brunette hair always includes a hint of off-black hues, is subtle in colors, dramatic in any strong blue. The red-head requires dark fabric contrast with bright hair tone — bright colors for dark red tresses. Greens lends subtlety, purple-blues drama. Gray or gray hair, being neutral, is friendly with all fabric colors, but allows and muddied colors are cruel to aging yellow skin.

on Color (continued)

ed variation with blue in undertone. Strong, pure colors — emerald green, lapis blue and blue-gray color families — are in order. It is interesting to note how many artists select chartreuse for portraits of Titian-haired models.

The silver-haired (white, gray or iron) often suffer torments as their youthful colorations give way to the tell-tale "threads among the gold." They needn't. Nature made it up to woman that her hair changes by giving her a fine variety of color selections. Her hair serves as an accent, if white; in any case, gray is a neutral (please turn page)

NOTE: Value refers to lightness or darkness, intensity to purity or grayness of the fabric color.

<i>Purple</i>	Avoid
<i>Purple-Red</i>	Light purple-red when grayed or very strong intensity; medium-value purple-red of strong intensity; dark, grayed purple-red.

Every Woman's Best Color is Fashionable (continued)

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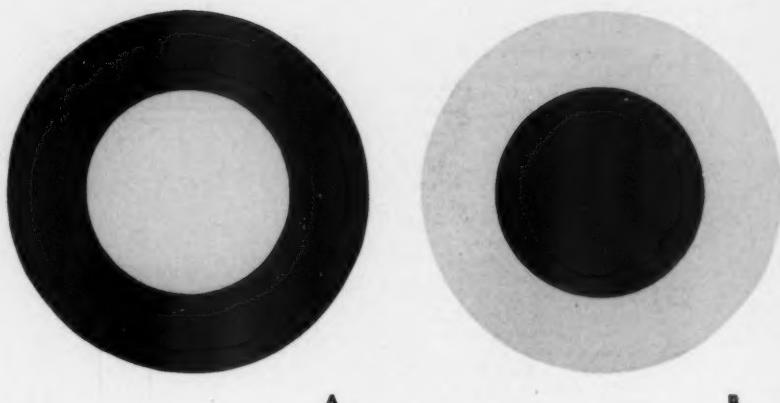
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***Is the Yellow Advancing or Receding?
How about the Blue?***

Some colors are described as "warm" or "advancing," while others are "cool" or "receding." The "warm" colors are friendly and gay, and have a tendency to increase your apparent size, particularly in the lighter variations of warm hues. A hue in which red or yellow appears is likely to add an appearance of greater bulk. Cool colors, which contain blue, are slenderizing, particularly in the darker shades.

In this illustration, note how the yellow circle in "A" appears to be in front of the blue circle. Reversing the colors in "B," makes the circle in advancing yellow appear to be in front of the circle of receding blue.

American Fabrics — Can You Believe Your Eyes . . .

MAKE THIS TEST

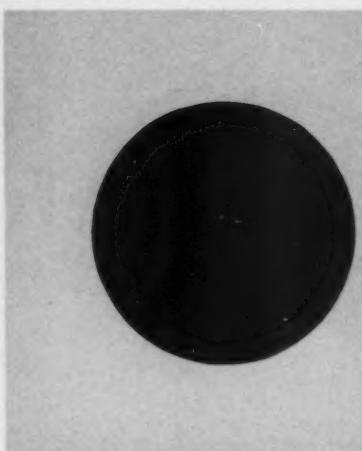
Gaze fixedly at the red patch for at least 15 seconds, then look below. The eye picks up a greenish after-image as you hold your gaze to the black mark. A fabric color worn close to the face will either reflect such an after-image or will reflect itself on the skin. A woman with strong complexion coloration, whose skin tends to show such after-images, is well-advised to use fabrics which contrast with her own coloring; if her complexion is pale, she requires fabric colors which heighten the complexion.



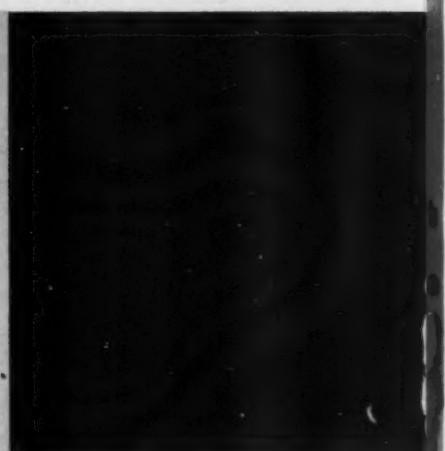
THE COLOR WHEEL above indicates the after-image which is created by each color family. Complements, diametrically opposed on the wheel, show up as after-image.



CAN YOU BELIEVE YOUR EYES?



C



D

Are these greens identical? . . . Yes the greens are identical and although identical colors are shown in the circles in "C" and "D," note how the background colors create a different effect. The green in "C" looks bluer because the yellow background throws its complement — violet — into the green; since violet is darker in value it lowers the value of the green. The purple background in "D" makes the green lighter and yellower by casting its complement — yellow-green — into the circle.

Can you believe your eyes? Believe it or not, the circles in the panels below are all equal in value. The gray circles on the left appear lighter on the dark backgrounds while the same gray circles appear darker because of contrast with the lighter backgrounds.
— acknowledgment, Man in Structure and Function (*Kahn*) published by Knopf, New York.



LADY, BEWARE!—Colors to avoid!

HAIR COLOR	COLOR	VARIATIONS TO AVOID
BLONDE	Red	Light intense reds, grayed reds
	Yellow-Red	Intense yellow-red, intense yellow-red of medium value
	Yellow	Dark, intense yellows
	Yellow-Green	Grayed, dark yellow-green
	Green	Light, grayed greens
	Red	Light, grayed reds
	Yellow-Red	Intense yellow-reds of medium value
	Yellow-Green	Intense, light yellow-green
	Red	Intense, light reds, grayed, light reds
	Yellow-Red	Medium intensity, medium value
RED-HEADS	Yellow-Red	Intense yellow-red
	Yellow	Dark, grayed yellows
	Red-Purple	Intense red-purples, medium values
LIGHT BRUNETTES	Red	Grayed reds
	Yellow-Red	Light yellow-reds, intense yellow-reds
	Yellow	Dark yellows, grayed yellow
	Yellow-Green	Very dark yellow-green, intense yellow-green
	Purple-Blue	Light purple-blue, intense purple-blue
DARK BRUNETTE	Purple	Intense purple, medium values
	Yellow-Red	Medium intensity and value
	Yellow	Dark yellows, grayed yellows
	Yellow-Green	Medium value and dark yellow-green, in weak or strong intensity
	Blue-Green	Intense blue-green
WHITE	Blue	Light blue, intense blue
	Purple-Blue	Light or intense purple-blue
	Purple	Very intense purple
	Purple-Red	Light, intense reds
	Yellow-Red	Light, intense yellow-reds, intense yellow-reds of medium value
GRAY	Yellow	All but grayed, medium value and dark medium-intensity yellows
	Green	Intense greens of light and medium values
	Blue-Green	Intense blue-greens of light and medium values
	Blue	Very light and very intense blues
	Purple-Blue	Avoid
	Purple	Avoid
	Purple-Red	Light, very intense purple-red
	Red	Light, intense reds
	Yellow-Red	Medium and strong-intensity in medium values
	Yellow-Green	Light and medium-value intense yellow-greens
	Green	Dark, grayed greens
	Blue-Green	Avoid
	Blue	Very light, very intense blues
	Purple-Blue	Avoid
	Purple	Avoid
	Purple-Red	Light purple-red when grayed or very strong intensity; medium-value purple-red of strong intensity; dark, grayed purple-red.

NOTE: Value refers to lightness or darkness, intensity to purity or grayness of the fabric color.



**FABRIC COLOR
AND
MILADY'S
HAIR, EYES
AND COMPLEXION**



— Illustration, courtesy Helena Rubinstein, Inc.

BLONDE HAIR, RANGING in hue from golden to yellow-brown and in purity from bright to grayed yellow (ash), offers subtle effects in pastels, dramatic impact in magenta, contrast through use of darker or lighter color tones.

Medium-brown hair allows the largest choice of fabric colors, subtlety from pumpkin hues, dramatic power from cardinal and guardsman blue. Dark brunette hair always includes a hint of off-black hues, is subtle in muted colors, dramatic in any strong blue. The red-head requires dark fabric colors to contrast with bright hair tone — bright colors for dark red tresses. Pale blue-greens lends subtlety, purple-blues drama.

Silver or gray hair, being neutral, is friendly with all fabric colors, but pastels, yellows and muddled colors are cruel to aging yellow skin.

Ketcham on Color (continued)

in grayed variation with blue in undertone. Strong, pure colors — such as emerald green, lapis blue and blue-gray color families — are in order. It is interesting to note how many artists select char-treuse for portraits of Titian-haired models.

The silver-haired (white, gray or iron) often suffer torments as their youthful colorations give way to the tell-tale "threads among the gold." They needn't. Nature made it up to woman that her hair changes by giving her a fine variety of color selections. Her hair serves as an accent, if white; in any case, gray is a neutral (please turn page)

that is friendly with all colors. One of the most successful of commercial models in recent years had pure white hair!

Winning colors for the silver-haired are black, deep reds, rich purples, and blue — which contrast favorably with her hair. The worst color for the silver-haired is the traditional "color of age," gray, whose value as a representation of maturity and sophistication is dimmed by the manner in which it weakens the strength of neighboring colors by "drawing" from them. Gray has a deadening effect. Gray hair and a gray dress offer little contrast or distinction.

The faint "old lady" pastels add little, either. If there must be lavender and old lace, let it be confined to the fragrance, rather than the color, of the blossom.

The accompanying illustration shows an effective ensemble, complete with accessories and make-up, for each hair-color type.

Eye Color and Fabrics

Today, many American women place far more trust in the power of color in apparel and costume accessories than they do in eye-shadow to make the eyes appear attractive. Too seldom is that trust backed up by sufficient knowledge of color effect.

I have seen blue-eyed blondes in attractive deep blue gowns, which set off the hair attractively and "washed out" the eyes until they showed but a pale hint of their natural beauty. The average blue of any fabric is so much deeper and brighter than the blue of the eyes that it drains the iris of color. Only the light values of blue — powder blue, for example — accentuate blue eyes.

It is well to pay more attention to eye color in selecting a daytime wardrobe than for evening wear.

Most people's eyes have less color strength than we realize. Large areas of adjacent color can either intensify or modify the coloration of the eye and the following hints suggest some flattering colors:

Gray — chartreuse, mauve, dusky rose, gray
Blue eyes — rose, orchid, sapphire, powder blue
Brown — emerald green, scarlet, dubonnet, amber, beige
Hazel — golden brown, coral, peach
Green — peacock green, turquoise, copper
Black — black, yellow, poppy, jade, gold, white, light pure colors.

Repetition of the eye color in the costume serves as a flattering accent. The identical color worn near to the face highlights the color of the eye.

Various shades of green eye-shadow prove most becoming to

The ancient Egyptians achieved an effect in the use of cosmetics that has never been surpassed. Malachite, a green mineral, was used as eye-shadow both to protect the eyelid from the glare of Nile Valley sunlight, and to bring out the white in contrast to the dark pupil of the typical Egyptian woman's eye. The Queen Nepherti shaded her lower eyelid in green, her upper lid black, and tinted with an orange-red preparation her fingernails, toenails, and soles of the feet.

the different complexion types. Green is best for use at night, dramatizing the eyes. Blue eye-shadow provides pleasing harmony when a blue accent is worn near the face. Gray, as a neutral color, is a good day-wear eye-shadow, and brown has a quieting effect on overly-prominent eyes. Eye-shadow applied over the entire lid gives the eye a sunken effect.

Carefully evolved contrasts governing eye shadows and eye color can produce some amazingly attractive results. For example, gold eye shadow sets off green eyes; green eye shadow is most effective with brown or blue eyes; and brown eye shadow complements gray eyes.

Eye shadows may be effectively matched to costume color, unless

COLOR NOTES

COLOR IDENTIFICATION is the process of discovering which of a number of standards is the same color as a given sample; the sample is thereby identified with the name or identifying mark of the standard.

COLOR DISCRIMINATION is the process of detecting differences between colors.

COLOR GRADING is the separation of samples into groups according to color; this may be done either by judgment of closest match to one of a number of working standards of color or by interpolation on a color scale by direct visual comparison of the sample with the working standards making up the scale.

COLOR MATCHING is the process of duplicating the color of a sample by means of lights, pigments or dyes.

ANY COLOR SCHEME that commands unusual admiration will be found to be in accord with the few laws which regulate the distribution of color in nature.

STYLE IN COLOR is the peculiar form that expression takes under the influence of climate and materials at command.

ALL COLOR WORK should possess fitness, proportion, harmony and should result in repose.

TRUE BEAUTY in color work accrues from the repose which the mind feels when the eye, the intellect and the affections are satisfied that no want is absent.

WHEN A STRONG COLOR is contrasted with another of lower value or weaker chroma the volume of the latter must be proportionately increased.

COLORS SHOULD BE BLENDED so that when viewed at a distance they will present a neutralized bloom.

WHEN TWO COLORS of the same hue are juxtaposed the lighter will look lighter or the dark color darker.

COLORS ON WHITE GROUNDS appear darker; on black grounds they look lighter.

THE SECRET OF SUCCESS in color work is the production of a broad general effect by the repetition of a few simple colors. Variety of this nature rather than multiplicity of color and varied forms should be the goal.

MARRIED IN WHITE

You have chosen all right;

MARRIED IN GRAY

You will go far away;

MARRIED IN BLACK

You will wish yourself back;

MARRIED IN RED

You'd better be dead;

MARRIED IN GREEN

Ashamed to be seen;

MARRIED IN BLUE

You'll always be true;

MARRIED IN PEARL

You will live in a whirl;

MARRIED IN YELLOW

Ashamed of the fellow;

MARRIED IN BROWN

You will live out of town.

Ketcham on Color (continued)

the costume is red or yellow. Red tints around the eyes would provide unpleasant effects, and yellow affords too little contrast.

Color and the Figure

There's an unfortunate tendency for most women to play from strength — when weakness may be built up into an attractive facet of the personality.

Shrewd Cleopatra did notably well with Roman generals and emperors by accentuating her snub nose — which was in strong contrast with the classic features of the Roman ladies. Often today's woman may be helped to find charm in a feature she would prefer to play down. Garbo, for instance, made her straight hair a point of attention — and beauty.

The colors women wear can emphasize or de-emphasize the figure and its dimensions.

Worth, the designer, chilled the enthusiasm for bright colors of one well-endowed patron by explaining, "Madame, when the Creator envisioned the hummingbird He set off His tiny jewel in brilliant plumage; for the elephant He created taupe."

Black is commonly favored for the large woman on the theory that it contracts the size. But against certain backgrounds it provides a merciless silhouette.

One apparel concern has successfully merchandised nothing but polka-dot designs. Perhaps one reason for the popularity of polka-dots through the years is the effect they obtain of diffusing the outline of the figure — for those who may need diffusion!

In such designs, of course, it is necessary to select carefully a size of polka-dot which does not too blatantly reveal the wearer's motive! In the same way, the use of vertical stripes to emphasize height and minimize weight requires cautious treatment. Too many wide vertical bands of contrasting colors across the figure will create the squat, broad effect that is being played down. Thus, up-and-down lines do not always slenderize.

The slender woman, on the other hand, is rounded out by use of strong, "advancing" colors (containing warm reds and yellows), with fabric prints in small patterns of sharply contrasting colors. Color designs are styled in horizontal or diagonal direction. Stripes exaggerate the curves and irregularity in the straight line of the figure.

Here's a color prescription for four types of figure:

Broad-hipped: Match hat and blouse colors, or hat and handbag; wear dark skirt, jacket in lighter colors.

Broad-shouldered: Match handbag and shoe colors; wear dark jacket, striped skirt in bold colors.

Slender: Match hat and handbag or hat and blouse, circling the face; wear warm bright colors. A broad belt contrasting in color with the dress will appear to widen the waist.

Short: Match handbag and shoe colors, dress in solid dark colors, with warm accent colors at top of hat and in footwear.

There will be instances when complexion color might seem to dictate one color, and the figure requires another. It is desirable to satisfy the feature that creates the most noticeable effect. Often, the complexion color may be offset by proper make-up; "when in doubt, select the color most suited to the figure," might be the rule.

Deft touches of desirable color in hat, collar, necklace or earrings create the desired complexion complements for a brisk woman executive I know, while the major color plan of her apparel is styled to the measure of her figure.

On the other hand, a woman may disguise many features that are not satisfying to her morale or her audience, through color-styling her apparel.

Color and Personality

Hard to define, but important to the effect it creates, is the rela-

Here are some psychological connotations of colors:

Dark pure red	— love and amiability
Medium red	— health and vitality
Bright red	— passion
Dark, grayed red	— evil
Strong light pink	— femininity, festivity
Pure medium pink	— delicacy, innocence
Grayed light pink	— daintiness
Grayed medium pink	— frivolity
Strong dark orange	— ambition
Strong medium orange	— enthusiasm, zeal
Strong light orange	— intensity
Dark medium brown	— utility
Light medium brown	— maturity
Strong light yellow	— inspiration
Medium yellow	— prudence, goodness
Light medium yellow	— wisdom, attention
Strong light yellow	— gaiety, stimulation
Dark medium yellow	— love of humanity
Strong light gold	— glamour, distinction
Medium gold	— luxury, glory
Dark medium gold	— riches
Light strong yellow-green	— freshness
Light medium yellow-green	— youth
Light strong yellow-green	— vitality
Strong medium green	— sociability
Medium green	— frankness, practicality
Grayed medium green	— naivete, innocence
Strong light blue-green	— restlessness
Strong dark blue-green	— longing, nostalgia
Medium light blue-green	— calm, repose
Grayed light blue-green	— placidity
Strong medium blue	— idealism
Dark medium blue	— sincerity
Grayed medium blue	— kindness
Light medium blue	— calmness
Strong light blue-purple	— sternness
Strong light purple	— magnificence
Light medium purple	— fragility, softness
Dark grayed purple	— royalty
Medium purple	— poise

tionship of color in costume to the personality and mood of the wearer.

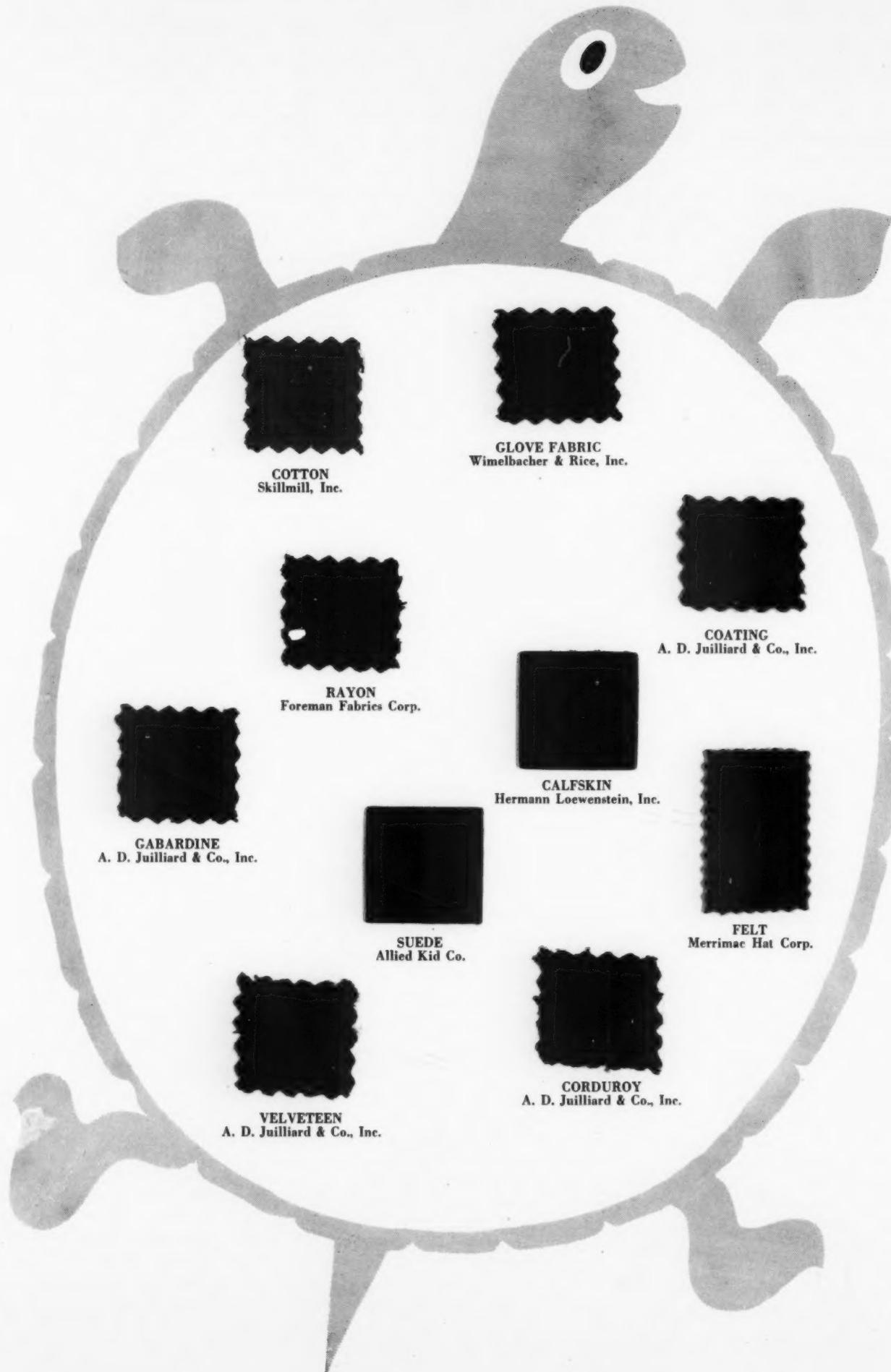
In general, personalities are broadly divided into two classes: the gentle and mild, and the strong and forceful. Some years a paint company announced that research had uncovered a mediaeval Chinese classification of personality into two types: the "Yin," or meek, and the "Yang," or aggressive.

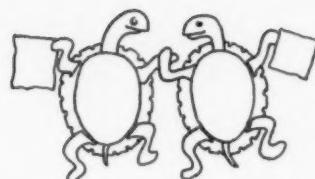
Not only personality, but temperament as well, were related to these groupings. The pastel colors, we were told, were "Yins," setting a slow and mild tempo of activity; the vibrant colors were "Yangs," expressing a vigorous attack on life's problems. Doleful Lillian Gish was described as a "Yin," dominant Greta Garbo a "Yang."

While life is not actually classified so readily, it is true that clothes express personality — and affect it. That quiet, conservative black suit which is so well-adapted for job-hunting is set off by a gold blouse, which lends an air of confidence with its color.

An effective dress color must not only be attractive, but must also be suggestive of the personality of the wearer.

The ideal toward which fabrics leaders look is a scene at point of sale, where an informed saleslady can tell a customer: "It suits your complexion, sets off your hair, brings out the color of your eyes; it's right for your figure, and fits your personality; it's your color!" — Howard Ketcham.





GREEN TURTLE • RED TORTOISE

Fashion begins with the Fabric...and these coordinated colors make exciting fashions news for Fall, 1948.

Green Turtle and Red Tortoise, colors that harmonize, are Color Co-Op's selection for the American Public for Fall.

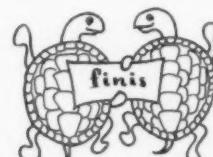
Here is the story:

Color Co-Op, a group of manufacturers of fashion materials choose colors for the following season. Aided by magazine editors and buying office stylists final selection of two colors is made. These are put into production in woolen, rayon, cotton, felt, leather. Thus the season's shades are matched so closely that complete color co-ordination is assured in every phase of fashion.

Members of the Group: Allied Kid Co.; Berkshire Knitting Mills; Coro, Inc.; Foreman Fabrics Corp.; A. D. Juilliard & Co. Inc.; Herman Loewenstein, Inc.; Merrimac Hat Corp.; Meyers Make, Inc.; Revlon Products Corp.; Skillmill Inc.; Waldes Kohinoor, Inc.; Wimelbacher & Rice, Inc.

* * *

American Fabrics gives you a preview of Green Turtle and Red Tortoise in the actual materials.





"Well, in our country," said Alice, still panting a little, "you'd generally get to somewhere else—if you ran very fast for a long time as we've been doing." "A slow sort of country!" said the Queen. "Now, here, you see, it takes all the running you can do, to keep in the same place. If you want to get somewhere else, you must run at least twice as fast as that!" —From Alice in Wonderland

THE TEXTILE ROAD INTO THE FUTURE

*Being a Few Gentle Prods
at the Rear End of a Great Industry . . .*

EDITOR'S NOTE: This American Fabrics Forum article presents the challenging comments of Sidney Garfield, president of Hirshon-Garfield, Inc. The views presented, are of course, those of the author.

THE textile industry, if you try to digest its history in 25-year gulps, does not offer a too palatable economic menu.

Some of the other major industries in this country have, in the main, shown a greater capacity for survival in the hard years than has the textile industry.

Without getting too profound or long-winded about it, I'd say that there have been two basic reasons for this inability of the textile industry to meet the challenge of the inevitable buyers' market:

1. Lack of *creative vitality* in an industry which is, in its essence, creative—and is actually as much an art as it is an industry.
2. The industry's almost moribund distributional philosophy and system. The textile industry has always been notoriously backward as a Seller except during the war and post-war years.

Since the purpose of this article is to suggest constructively rather than to tear down cynically, let me accentuate the positive.

I believe that it is possible, in the years ahead, for the industry

to become more creative and develop a high degree of volume security. Without this volume security the expanded productive capacity which has been built up in textiles will gather dust and rust. Its vaunted efficiency will become just a phrase—an idea—a dream—which is the way of good things when they are unused.

One of the great issues to be faced by the textile industry, and particularly by its *volume producers*, is how to reconcile a system of mass volume production with the necessary flexibility. Only in this way can it take advantage of the tremendous sales-producing power inherent in the creative aspects of the textile industry.

As this publication has demonstrated time and again, the whole long history of textiles, which is man's first and oldest industry, is deeply wedded to man's irrepressible need for self-expression.

I contend that the two elements, *volume production and creative expression*, are completely reconcilable. And it is not hard to reject the glib mouthing of those protagonists of the Creative who maintain that these elements cannot be reconciled. This has been disproved time and again in American industry. In refrigerators, automobiles, baby carriages and kitchen furniture, etc.

It has only occasionally been proven in textiles, where the application of *proper merchandising methods* has enabled the miracle of mass production to bring artistic textiles and apparel to the entire American public.

The mass *distributors* of this country such as Sears-Roebuck, Montgomery Ward, Macy's, etc., have shown that it is possible to reconcile the creative faculty with mass distribution.

In the grocery field, the big chains,—A & P, First National, Safeway, etc., have shown that they could merchandise perishable foods, such as fresh fruits and vegetables, with as much success as the independent grocer, who hitherto had claimed this particular area as his own province, and at the same time these mass distributors



NEEDED: Volume production plus creative expression . . .

have been able to bring to the public the logical savings implicit in their volume.

I think that the secret, if you can call it a secret, involved in the reconciliation of the creative faculty and large-scale production lies in the theory of simplification and concentration in merchandising. The merchandising theory of wide selections and variety as an evidence of the creative faculty may be a mistaken one. Variety of itself has frequently been employed in the textile and related industries as a cover-up for confusion, lack of conviction, lack of knowledge of what the public wants and what is merchandisable in volume.

But that is a subject for another article . . .

In the meanwhile, if we accept the premise that proper creative development can stimulate greater volume in textiles and in the end-use products of the textile industry, what and where are some of the opportunities for such creative development on a broad industry-wide basis?

Here are some visions and dreams of broad categories of possible future creative development.

The Age of Travel Opportunity

For many years, we have known that the enormously increased transportation facilities of this country—of the world—were changing the habits of the people, and changing their ways of thinking about themselves and the world. We have witnessed, even with the restrictions of the war years and the post-war years, an enormously increased interest in travel. We see new national magazines emerge, such as *HOLIDAY*, devoted to the idea of travel and all its implications and impacts.

What has the textile industry done about this? Where are all the new fabric developments designed for travel? Clearly the industry has been laggard in pursuing this subject.

What is meant by fabrics designed for travel? No genius is required to envision the direction of such a development.

The big idea in travel is to travel *burdenlessly*. Therefore, fabrics that *pack light* and *wrinkle less* in finished garments are called for. There are also fabrics designed for travel in which rough,



Age of travel is textile industry's opportunity.

itchy textures must be replaced by smooth, sliding textures. And so on. It is only a question of proper thinking, simple logic.

Let's take the woolen industry. Traditionally, in suits and sports jackets, the fabrics that were always associated with travel were tweeds of the Harris type. In former years it was considered a great asset to have wiry, crispy tweeds. This has been replaced in certain circles by a new concept of travel tweeds. We, in America, could possibly develop very soft, buttery, lightweight tweedy-looking fabrics, sans the itch and so-called "crispness" of the tweeds of tradition. The same thing goes for other types of casual wool fabrics, and herein lies one of the great opportunities for the woolen industry of America.

With the proper development along these or similar lines, those in the industry who are involved in the spinning of wool yarns

and the weaving of wool fabrics can create great new volume stimuli.

The moral of the foregoing is that in the tweed field some of the producers may have let too much time elapse before they began to attune their product to the changing times. Perhaps they let the market get ahead of them instead of staying a little ahead of the market all the time.

The Opportunity in Raincoat Fabrics

The raincoat business in the men's and women's fields is a pretty big thing today and it got that way with very little help from the textile market. It got that way because the raincoat is inherently



People will inevitably reward new developments.

a very useful garment, and the garment makers have produced extremely interesting models.

In the men's field the raincoat business is practically a one fabric, one color business, namely, gabardine and tan. This is all very lovely but it just won't stay that way. And I venture the prediction that somewhere along the line some textile organization is going to come out with a new concept of what raincoat fabrics should be like and that organization will do well.

The raincoat field, of course, is closely allied to the travel idea. The fabrics must be light in weight, *very* wrinkle-resistant as well as rain-resistant and very packable and carryable.

One field for interesting research lies in the possibility of developing very lightweight fabrics, which yet possess a high degree of firmness and body.

It is assumed that in order to get the perfect combination of lightness in weight and firmness of hand and body, the tightly woven types of fabrics will have to be employed.

In this connection, a great deal more surface interest can be injected into raincoat fabrics. And of course, the subject of color and design has only been timidly explored in this field.

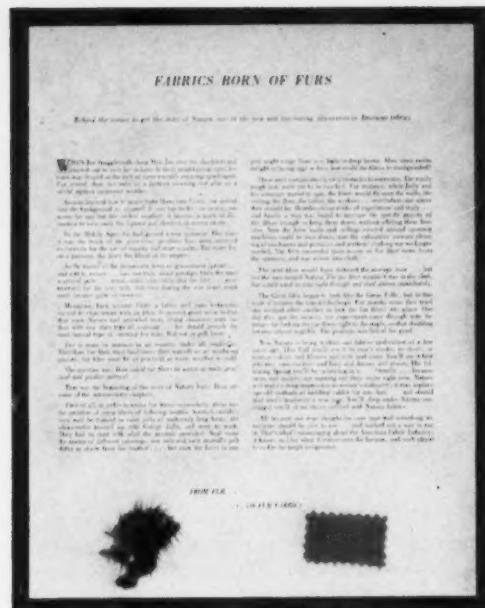
The Opportunity in the Topcoat Field

This is a field that is hungrily waiting for some new fabric developments. Here again the field has been dominated of recent years largely by gabardines, and I think they will soon run their course, because I think men will want a change, and I think there is already some indication that they want a change.

Rewarding developments in the topcoat field may be in the direction of softer, silkier-textured cloths, lighter in weight, wrinkle-resistant and longer wearing. Possibly many of the new experiments in fiber blends will yield the answer. I am not talking about the ultra-expensive kinds of hair-fabric coatings which are very lovely but beyond the average man's purse.

It is very possible that new soft-tweed, bold-pattern thinking will play a vital role in future topcoat development.

Proper study will reveal to the textile industry the ways and means of maintaining a continuous creative pitch. — S. G.



THE NEW DIMENSION IN TEXTILES

Blending of fur fibers with wool, rayon and cotton adds an extra dimension . . . re-emphasizes the importance of sense of touch in the world of fabrics.

Not quite two years ago, on page 79 in the first issue of American Fabrics, we discussed the possibilities in the development of fur blended fabrics. Until American technical skill solved the problem of blending long and short fur fibers together and locking the fibers to the staple . . . so that shedding and working through would not occur.

In the first place, the experts were faced with the problem of using fibers of different lengths, for, as we pointed out, animals couldn't very well be trained to raise pelts of uniformly long hairs. Next the experts faced the almost insurmountable problem of locking the fur fibers tight to the staple . . . so that shedding and working through would not occur.

Happily with both problems solved, and with fur fibers now being produced and woven into cloth, through Unique's Blendlok process, the textile industry may well pause to evaluate the immediate possibilities in these fur blended fabrics.

Probably the most important contribution to the textile field of this newcomer is the fact that through the introduction of what is virtually an extra dimension it re-emphasizes the importance of "Touch" in the field of fabrics.

The natural tendency of the human being to evaluate things by one or several of his five senses is a well-known phenomenon. In the domain of fabrics, it is almost entirely through the senses of sight and touch that we form our judgments and make our decisions of negation or affirmation. And it is in this direction that fur fibers blended with wool, rayon or cotton have immense possibilities of achieving eminence. For a demonstration, please turn to the pages following.



Rembrandt. F. 1638.

AS OLD AS ADAM AND EVE, AS NEW AS TOMORROW

*Fur, one of man's first coverings, is now used to blend
with many of man's present-day fibers... to create
a new dimension in textiles*

(now please turn the page)

Here is a piece of sandpaper



Touch it . . . feel it . . . rub your finger down its surface. What was your reaction? Positive or negative . . . harsh or soft to the touch . . . inviting or repelling?

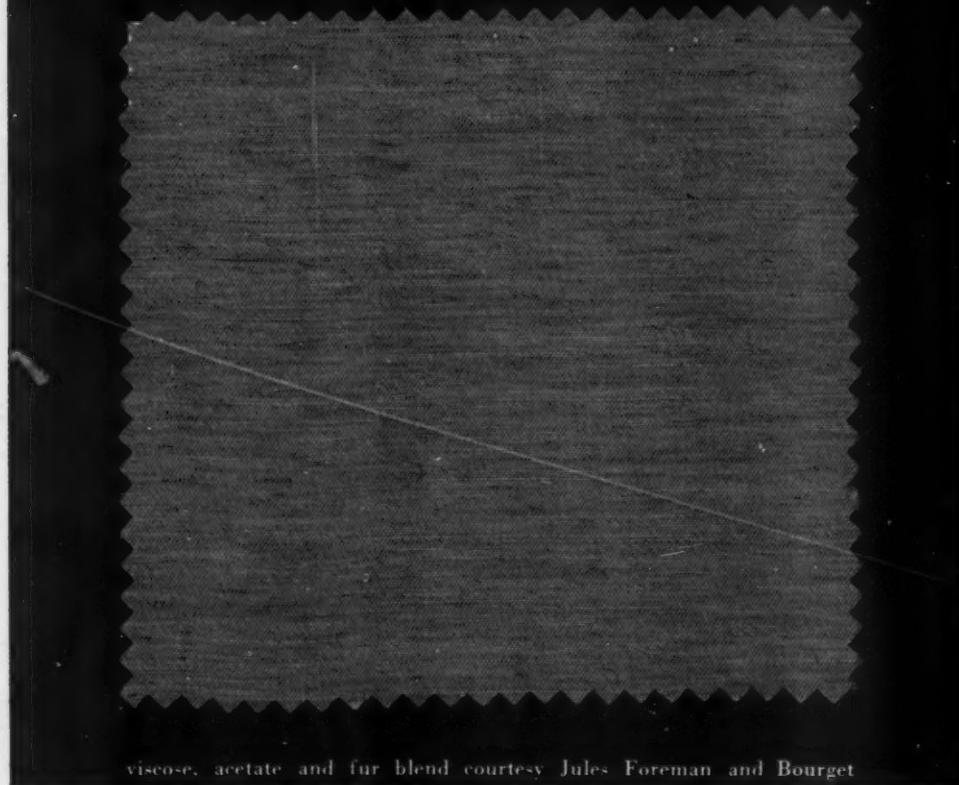
U-G-H-H-H!! (Adam and Eve would have said)

*— as harsh and as rough
as sandpaper!*





Now please touch this piece of fur fiber fabric



viscose, acetate and fur blend courtesy Jules Foreman and Bourget

What was your response this time?

As contrasted when you touched the sandpaper?

What is its chief characteristic?

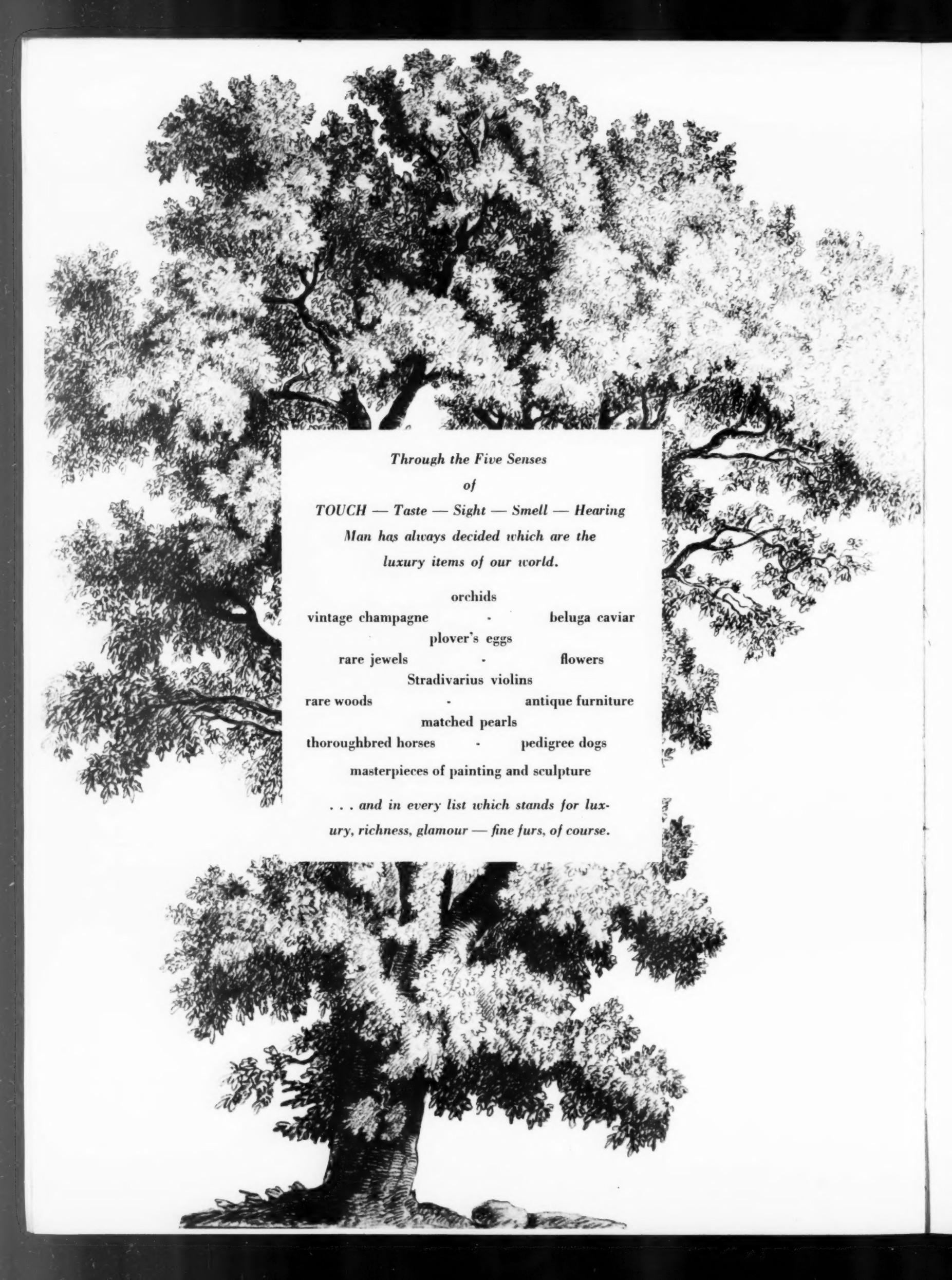
Is this fabric harsh or soft to the touch, inviting or repelling?

AH-H-H!!

*As soft, as rich, as luxurious
as precious fur!*



Mink Cape Courtesy Fromm Furs



Through the Five Senses

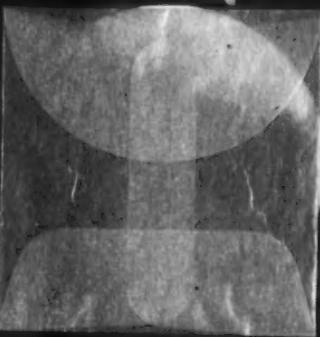
of

TOUCH — Taste — Sight — Smell — Hearing
*Man has always decided which are the
luxury items of our world.*

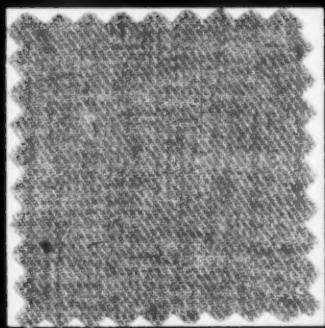
orchids		
vintage champagne	-	beluga caviar
	plover's eggs	
rare jewels	-	flowers
	Stradivarius violins	
rare woods	-	antique furniture
	matched pearls	
thoroughbred horses	-	pedigree dogs
	masterpieces of painting and sculpture	

*. . . and in every list which stands for lux-
ury, richness, glamour — fine furs, of course.*

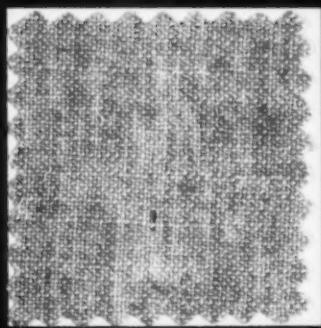
Fur Fibers Blend With Wool, Rayon, and Cotton to Add New Dimension in Textiles



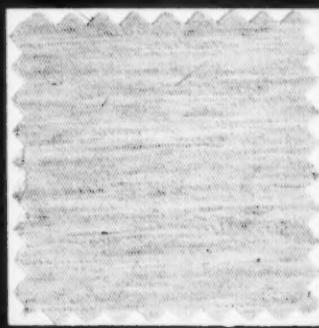
sample of the actual Fur Fiber . . . Natural color is mink . . . White is silver fox blend for pastel shades.
courtesy Unique Fibers, Inc.



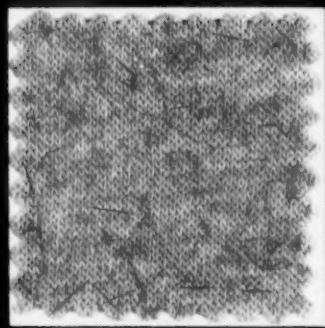
viscose, acetate and fur blend
courtesy National Mallinson
Fabrics Corp.*



wool and fur blend
courtesy Milliken Woolens



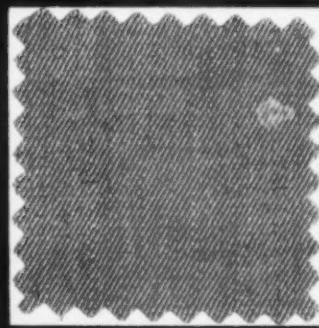
viscose, acetate and fur blend
courtesy Associated Textiles
of Canada, Ltd.



wool and fur blend (knitted)
courtesy Princeton Knitting



viscose, wool and fur blend
courtesy Robaix*



viscose, acetate and fur blend
courtesy Hess-Goldsmith, Inc.*

*Fabric originally developed by the Fabric Development Division and
the Textile Research Division of the American Viscose Corporation.





TOUCH

soft, rich, luxurious

*fur blends present America's textile industry
with unparalleled opportunities. The new
dimension in textiles starts with this primary
list of fur-bearing animals.*

MINK

Shortest fiber of all precious furs used for spinning, mink fur hairs are approximately half an inch in length, 10.5-11 microns in diameter and usually a warm brown in color. Rich appearance and hand and soft draping qualities are features of fabric in which mink fur fibers are used. One of the most popular of the fur fibers.

MUSKRAT

Color of this fiber varies, but is predominantly silver gray. Next to mink in fineness, fur hairs approximately 12 microns in diameter (from which the guard hairs are removed) are used for spinning. The resulting fabric has a similar luxuriance to that in which mink fur fibers are used.

RACCOON

One of the longest of the precious fur hairs, the average length of raccoon hair is 1 $\frac{1}{4}$ inches. They are grayish brown and have a soft hand. Fur hairs, approximately 15 microns in diameter, are used for fabric with a soft wool-like handle, while the guard hairs which vary from 30-80 microns are used to give a shaggy effect.

SQUIRREL

Guard hairs are usually removed from the gray fur fibers of the squirrel before spinning in order to give softness and richness to

the blended yarns in which like fur hairs are used. The fur hairs are about three quarters of an inch in length; average 14 microns.

WOLF

Very pale grayish beige in color and consequently valuable in the spinning of light colored and pale dyed fabrics, wolf fur fibers are approximately seven-eighths inches in length, 15-18 microns in diameter. Guard hairs are over two inches long and silkier than other precious fur hairs. Achieves unusual color effects.

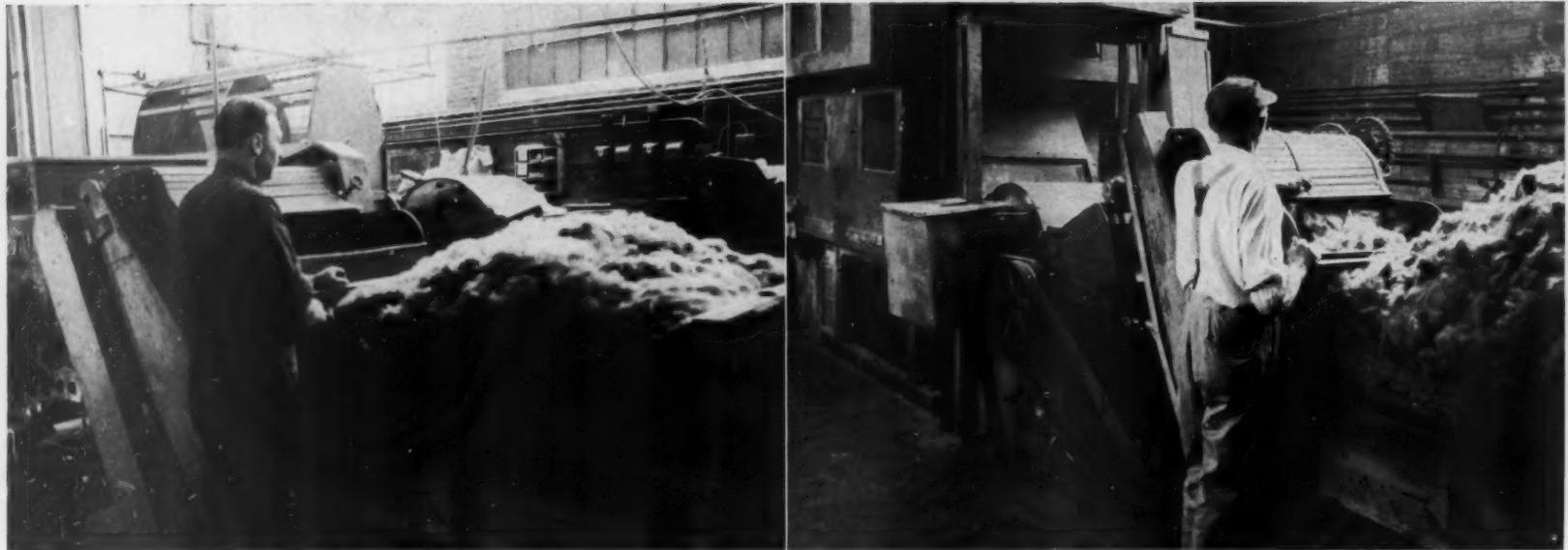
OPOSSUM

Because of the soft cashmere-like handle and good draping qualities they impart to fabrics, American and Australian opossum hairs have achieved considerable importance. The fur hairs of the American opossum are very light brownish-gray whilst those of the Australian animal are darker in color.

SILVER FOX

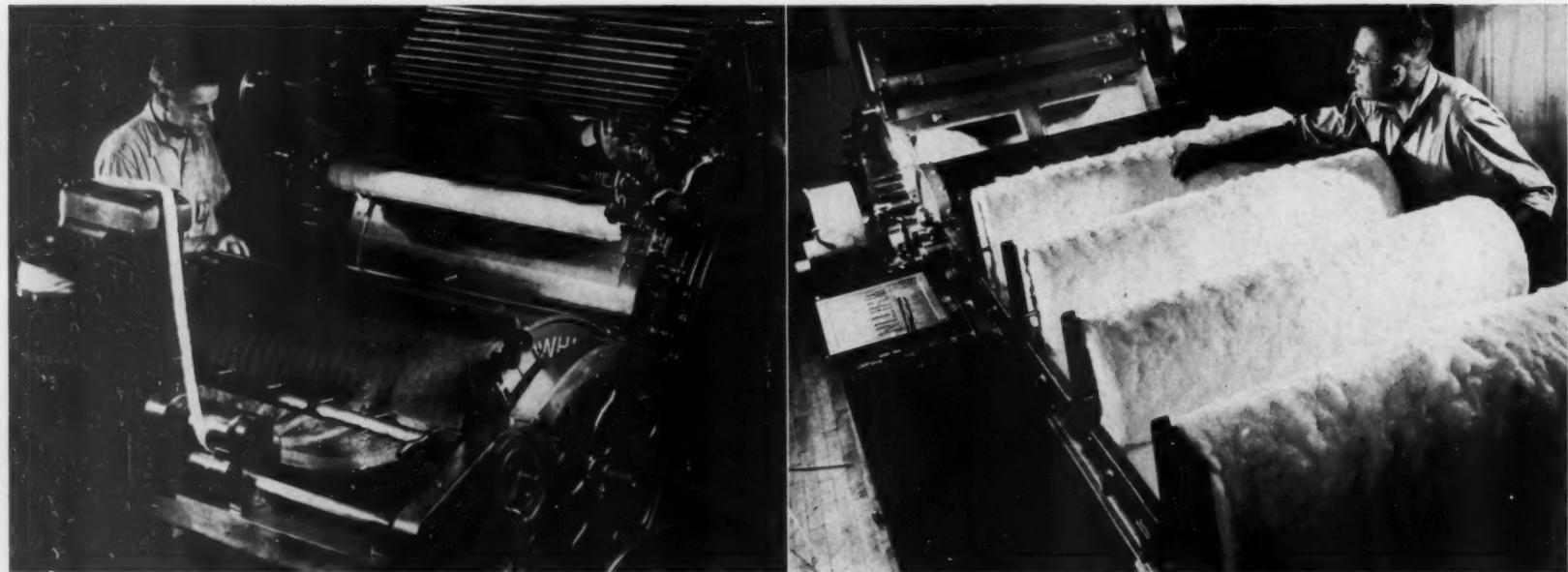
All types of fox are used, including silver fox fur hair, which is dark gray, almost black (due to removal of white banded and tipped guard hairs). Fur hairs are approximately $\frac{7}{8}$ inches long, about 15 microns in diameter and give a soft rich hand. Guard hairs, averaging 30 microns in diameter, are also used when a fabric with a spiked surface is desired. White fox blend is used to achieve pastel effects.

(Continued)

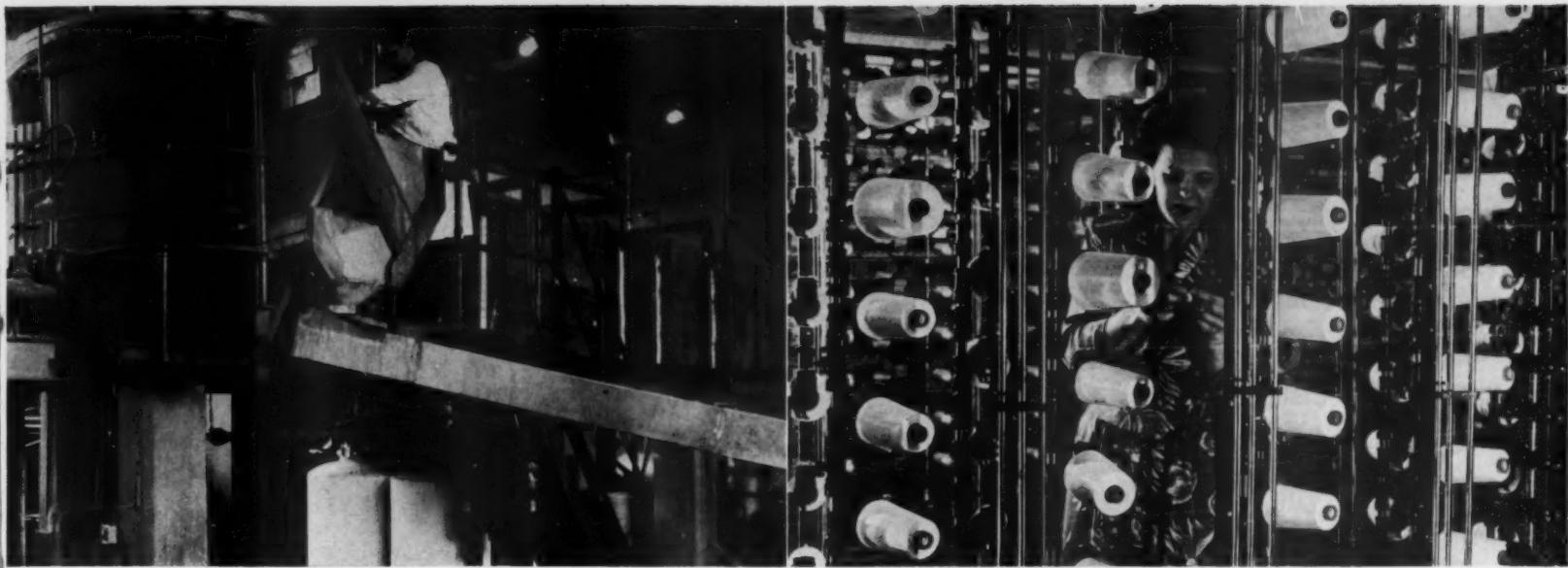


The photo above at the left shows the cleaning of the fur fibers at the plant. This is one of the first steps in preparing the fur fibers for blending with wool, cotton and rayon yarns. (right) The locking of the fibers via the Blendlok process is one of the most intricate operations in the preparation of fur fibers.

KEY STEPS IN PREPARING FUR FIBERS FOR BLENDING WITH WOOL, COTTON, RAYON AND OTHER YARNS



At left above is shown the laps being converted into untwisted strands of fibers on the revolving flat cards. One of the strands called a sliver is being drawn off the machine. At the right is shown the first step in the blending of the staple fibers together . . . the staple is blended into laps, four laps being superimposed on the machine illustrated.



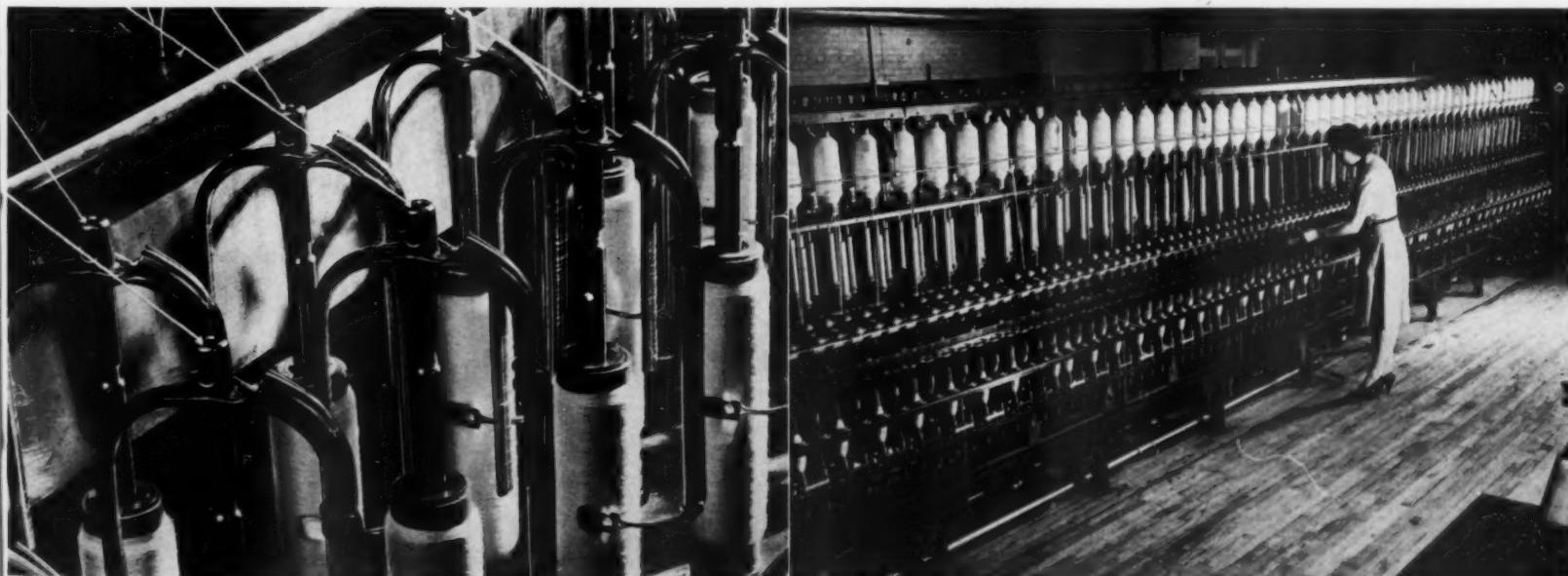
Part of the equipment in the Blendlok process which eliminates the fly from the fur fibers is shown in the photograph at left above. At the right are shown cones loaded on magazine creel. Yarns from these cones are ready for winding on a beam.

ACKNOWLEDGEMENTS

American Fabrics makes grateful acknowledgement to the individuals below for their help in the preparation of the foregoing article on Fur Fiber Blends in Textiles

Mr. Pierre Sillan, American Viscose Corp.
Mr. George Suhrie, Fox-Wells & Co.
Mr. Fred Shacter, Unique Fibers, Inc.
Messrs. Minot Milliken, John Abt, Milliken Woolens
Messrs. Kenneth N. Merrill and George M. Jolly, William Whitman Company, Inc.
Mr. John Cavedon, Falls Yarn Mills, Inc.
Mr. Jules Foreman, Foreman Fabrics Corp.

Mr. Jerry Rossman, Robaix, Inc.
Mr. Carlos Gerli, National Mallinson Corp.
Mr. Louis Brenner, Hess, Goldsmith & Co., Inc.
Mr. Bernard Sturz, David D. Doniger & Co., Inc.
Messrs. Louis Brecher and Lester Wronker, Bourget
Mr. Emile Collette, Associated Textiles of Canada, Ltd.
Mr. Max Doft, Princeton Knitting Mills
Mr. D. R. LaFar Jr., Harden Manufacturing Company



The sliver which is drawn off the machine as an untwisted strand of fibers is then drafted or pulled until it becomes a roving. Here the roving is going through further drafting and a slight twist is being added. At right the roving is finally fine enough to be spun into yarn. Photo shows a cone winder which unwinds yarn from the spinning bobbin and winds it on a cone.



THE CONSUMER

The millman, the converter, the apparel manufacturer, the retailer, the retail clerk . . . all throw at Mrs. Consumer words and phrases as selling blandishment . . . all assuming that she knows what they're talking about. Sadly enough, it's gibberish to her. And so writer Cora Carlyle gathers a group of typical

Q. Do you think a woolen fabric may be used for an evening dress?

- A. Yes. A few of the top-flight manufacturers of woolen fabrics make very sheer materials suitable for evening wear. The fabrics are of plain weave and the yarns have high-twist which goes with smoothness and sheerness. When held to the light they appear almost "cob-webby" in texture. The material will give good wear, drape perfectly, lend itself to Shirring, and fall softly.

Despite the wisp-like texture the fabrics may be made crease-resistant. They will not feel clammy because the cloth will absorb perspiration.

Woolen evening dress fabric has luxuriant appearance and defies identification by the casual observer because of its unique characteristics. The fabric comes in colors and prints.

Q. Were Venetian blinds used only in modern times?

- A. It is obvious that they originated in Venice during the halcyon days of this city-state in Italy during the Renaissance Period but there is considerable difference between the blind of today and the one used then. Today, the blinds are made in assembly-line fashion. The original blinds had slats made from precious woods which were highly polished and specially chosen to blend with particular color schemes. The cords which held the slats were hand-made from silk or linen fabric of rather intricate structure but, at the same time, possessed good tensile strength to withstand the rigors of friction.

The metal pulleys and arrangements that we know did not exist in the days of Venice. The principle, however, was the same — with wood as the material used.

Q. Very often the sales staff, even in more exclusive shops, do not know the name of the manufacturer of fabrics in stock. To whom should I go for this information?

- A. Ask the buyer in the department. In the fabric department she will know. In the case of made-up garments, however, the buyer may be unacquainted with the fabric of which the garments are made because it is likely that she has obtained them from a cutter whose reputation is so high that he uses only the best fabrics in his products. In cases of this sort the buyer will rely on the cutter but she may, if you insist, ascertain the name of the fabric manufacturer for you.

Q. Is American linen as good as Irish linen?

- A. You may go to the head of the class for this question! Irish linen has a deep-rooted tradition which has given it the reputation of being the best in the world. Although there may be some poorly constructed Irish linens it is unlikely that they are shipped here — for the tradition of Irish linen must be upheld. The American linen industry has some very well-informed persons directing all phases of the industry and

American linen can be good. Whether it is or not depends on the ideals which the source may have, price, competition, labor costs, etc., etc.

Q. Do you iron corduroy?

- A. No. This is a fabric with a pile and any pressure from an iron will tend to flatten it. After home laundering, the garment should be hung to dry. If it was hand-laundered, the excess water should be taken out quickly by rolling the garment rather rapidly in a terry towel.

If machine-laundered where there is a spin-dry attachment, hanging is the next step. Shape the garment by hand in either case. When nearly dry, a soft brush can be used to enhance appearance. Often the hems and the seams need a light (never heavy) touch of the iron on the wrong side of the goods. This is because the thread may have puckered somewhat, and because a flat edge may be desirable at the hem, cuff, etc. Brushing the pile when nearly dry will restore the "new look."

Q. How can you tell whether a soft woolen fabric will wear well? For example, my husband balked at buying a sports jacket, soft to the touch, because he wasn't sure that it would last for more than a season or two.

- A. If properly constructed a soft woolen will wear well. Two seasons' wear should be confidently expected unless he lives in it. A fabric harsh to the touch might wear a bit longer, but would it be as attractive or as comfortable? . . . or as popular with less "individual" individuals than your husband?

Q. My husband asks if anything can be done about sports shirts that shrink. He remarked facetiously, "Perhaps they ought to double the size of the 'Dry Clean, Do Not Wash' label."

- A. Papa should ask for sport shirts that will not shrink. Whether he is seeking shirts made of cotton, rayon or wool, there are processes today that guarantee the shrinkage to be so low that the garment will not shrink out of fit. What more can he ask? Ask him if he has ever heard of Sanforized, Lanaset, Sanfor-set? Tell him to be sure to read the labels, too.

Q. I've seen cottons with very vivid prints. Are these fabrics washable?

- A. Yes, just as easily as a dull print. When buying, ask if the print is washable — if this information is not on a tag or label on the material. If the salesgirl does not know, ask for the buyer. If the salesgirl says "Yes" ask her to make this notation on the sales check. Most vat dyed prints are eminently washable, so, if you see "Vat Dyed" on the selvage of the yard goods you can feel pretty safe on that score. How many times, though, have you thrown away your sales slip and how many times have you never even given the label a fleeting glance? If you have trouble with the goods or garment you must have these items.

WANTS TO KNOW...

Mrs. Consumers from time to time . . . asks them what they'd like clarified in textile terms . . . and then fires the questions at Dr. George Linton. Here is the sixth batch. The moral is: Just because you know what you mean, don't take it for granted that the other person does.



Q. Do the tie silk fabrics used for ladies' dresses wear well?

- A. That depends — there are good and not-so-good tie silk fabrics on the market today. A good quality fabric will wear very well when made into a dress.

Q. What kind of drapery and upholstery fabrics go well with antiques?

- A. Practically anything You like. Of course, "antiques" is a very broad term and may cover a multitude of sins. The term may mean anything from Louis XIV to Early American, etc. If you wish to conform to some certain period, then probably the modern counterpart of the fabrics used in that period would be the best bet. But present thought in decorating allows much leeway, and often the best effects are obtained by following your own good taste.

Q. My husband is undecided whether to buy a tropical worsted or a synthetic suit for summer wear. Can you tell me some of the disadvantages of each type?

- A. First of all it is not a synthetic suit he is after — unless made of nylon or vinyon. The other so-called synthetics are really man-made fabrics made from man-made filaments and fibers.

I shall assume that you mean a suit of rayon. These fabrics and garments are remarkable in that if properly made and if treated for **CREASE RESISTANCE**, they will give excellent service in many ways. And the prices are comparatively low. A tropical worsted will be cool, good-looking and comfortable. The final decision will probably rest upon the tailoring — how does it look when your husband tries it on? The decision of the judge is this — buy one of each and give it the good old wear test so that future purchases will be to the liking of the wearer. You know we men average only $\frac{3}{8}$ to $\frac{1}{2}$ a suit of clothes per year — let's help the apparel industry.

Q. What is a Toile de Jouy? I hear so much about it that I would like to know what it is used for?

- A. Now for a course in history! Jouy designs are made from Jouy printed fabrics which were originally made of cotton or linen. The latter material was considered the best and the prints on them simulated imported Oriental masterpieces. The first linen fabrics of this type were made in the Bievre Valley of France. Jouy soon became the center of the industry and Oberkauf became the leading designer. By 1760 the great influence of Jouy designs was apparent.

Oberkauf introduced the printing of textiles by means of rollers; there could be as many colors on a fabric as there were rollers in the machine set-up. Jouy canvas became extremely popular for dresses and general interior decoration.

Light background is a feature of Jouy and scenes depicted

include landscape, pastoral and portrait-types. Many of the designs today on linen or cotton are of the good old nostalgic or bucolic types.

Q. Can you tell a pure silk by touch? By smell? Or, just how is it done?

- A. Touch and smell are not too good in tests of this sort. Other animal fibers may smell like silk when burned.

Pure silk is a fabric made of all silk and one that has not been weighted with tin salts or lead plumbate over ten percent. In the case of blacks, 15% weighting is allowed.

Q. Do you think pure silks will become cheaper?

- A. Certainly, but not for some time. It should be borne in mind that there is now a whole new generation of consumers who will have to be educated to the values of silks. This generation has only to wear silk fabric to know the qualities and the characteristics of silk. After this, as consumers, they will perhaps ask for them again because of silk's distinctive qualities. A plentiful supply, perhaps more than anything else, will cause the price of silks to be lowered.

Q. What effect does soot have in breaking down fibers?

- A. Soot alights on a fabric and then becomes wedged between the fibers by flexing and impact. The soot particle is sharp-edged. After some time elapses — be the fabric carpet, drapery, upholstery or garment — the edges of the soot particle tend to cut the fibers against which it is lodged. Pressure may accelerate this action.

Q. I have heard that a skein of wool will not shrink when washed. Why, then, does knitted or woven wool shrink?

- A. A skein of wool will shrink when washed. When woven or knitted into a fabric shrinkage would of course be more, since the fibers are in closer contact. This means that the principal reason for wool shrinkage — interlocking of the fiber scales peculiar to wool — is more possible. During laundering, the scales open up under the influence of heat. Pressure and manipulation cause them to interlock and drying finds them immovably placed so that the result — shrinkage — is inevitable.

Q. Does it pay to "invest" a lot of money in pure silk draperies?

- A. If the pure silk draperies are the right color and weave for your particular purposes, and since you apparently can afford to pay the price at this time when silk fabrics are so expensive, it will pay to invest in them. Their beauty, drapability, luxurious appearance, cleanability and long wearing qualities will more than repay you.

letters to the editor

TO THE EDITORS:

I have just read the first four issues of AMERICAN FABRICS. No person can read even one issue of this magazine without reaching the conclusion that the American designer of textile patterns frequently is an American inventor. That the American textile designer is an artist, is also beyond question.

To anyone whose profession involves the judging of the quality of textile design, the textile designs in these issues fall into three classes: The designs which are inventive, the designs which are artistic but imitative, and the designs known as classics. These categories embrace not only prints but weaves, laces, and embroideries made of all types of materials and yarns.

The really fine American designs fall in the first class. The others may make money for the companies producing them but they contribute nothing to a campaign to induce the public acceptance of American design.

It is my belief that textile publicity has overlooked its greatest tool in achieving public acceptance of truly great American textile design.

Does the textile designer know and does the advertising fraternity know of the magic associated in the minds of the general public with the words "Design Patented in the United States Patent Office" or "Patent No. Des. _____"?

A great many words have been written and more will be written concerning design piracy in the textile field. The vital question is: Does the textile designer know and does his manufacturer know that once a textile design has passed the test of design patentability the designer has in his hand a tool so perfect and so powerful that for a hundred years no better tool has been produced to protect that which is his own property under law? I speak of a United States Design Patent.

The manufacturer must decide whether classics or truly new designs are going to bring him the greater return on his investment. If he will persist in emphasizing the designs which are truly new, he will eventually educate the buying public to an appreciation of fine design in the materials from which its clothing is made.

To the manufacturer who wishes to make money for a season on exclusive use of a classic pattern, the Design Patent Statutes offer nothing. To the designer and his manufacturer who wish their line to consist of colorable imitations

of other successful patterns, the Design Patent Statutes offer nothing. But, to the designer who invents a new, original, and ornamental design, the full protection of individual property rights by the Courts of the United States is offered.

To the American inventor of textile designs and to the American Manufacturer, I say, you have an opportunity now, not in the future, but now, to begin the task of educating the buying public to recognize the principles of really outstanding textile design. A most efficient co-worker is your United States Design Patent on each patentable design which has passed the test of universal novelty, originality and ornamentalism. Already firmly rooted in the American mind is a profound respect for a Patent issued by the United States Government. It is your privilege to use this prestige as your advertising assistant.

(Miss) Jean G. Hamilton
Washington, D. C.

To writer Hamilton our thanks for the constructive expressions in her letter . . . to reader Hamilton we suggest a rereading of page 67 Number Two issue of American Fabrics.

TO THE EDITORS:

You may be interested to know that although we subscribed to AMERICAN FABRICS for the benefit of students of textiles in our Home Economics department, we find it to be of tremendous interest and in constant demand by many other students, both for use in connection with their various classes and because of a general appreciation of its information and beauty.

Benjamin Whitten
Librarian, Whittier College
Whittier, Calif.

TO THE EDITORS:

You may be interested in the following excerpts from "Home Life in Colonial Days"—(Wool, Culture and Spinning):

"During the Revolution, it is said that in a day and a night a mother and her daughters in Townsend, Massachusetts, sheared a black and a white sheep, carded from the fleece a gray wool, spun, wove, cut and made a suit of clothes for a boy to wear off to fight for liberty."

M. D., New York

TO THE EDITORS:

A word to express my very real appreciation for your publications, not only for the beautiful presentation, but for the great wealth of information so valuable in the research field. Textiles are so highly technical these days that it is only through publications like yours that we may keep abreast of developments.

Ruth Kemp
Director Mdse. Research
Crowley, Milner & Co.
Detroit, Michigan

which needs complete volumes. Could a few of these be broken and lacking numbers be distributed to those who need lacking numbers, especially libraries?

Your magazine is so unique and important and we must have all the numbers. We fervently hope that No. 1 will not be lacking long.

Bea Haberl
Art Reference Library
M. H. DeYoung Mem. Mus.
Golden Gate Park, San Fran.

TO THE EDITORS:

Hand weaving has and is growing so amazingly I can't understand why someone doesn't get out a really high-class magazine for weavers. The only thing we have ever had was "The Weaver," brought out by Bernat. During and since the war their distribution and quantities of materials is such that they show no inclination to bring it out again. After reading some of your articles wide vistas open to what could be done for us if somebody were enterprising enough to start. If it is out of the field of your organization why don't you pass the idea on to someone who could and would. In anticipation,

Adele S. Weidman
Southern Michigan Weavers
Detroit

There is now in preparation for a coming number of American Fabrics a comprehensive article on hand weaving in the U. S. A. We hope it will fill a need.

TO THE EDITORS:

Last year my husband gave me a subscription to AMERICAN FABRICS. I received Volume 3. We wrote for Volumes 1 and 2 but were told that none were available. We tried to obtain the copies elsewhere but could not do so. Around Christmas time we received the announcement that Volumes 1 and 2 were available as a special offering. Somewhere or other I heard the expression—is this cricket?—or something like it. My husband and I, as I am certain many others—are most enthusiastic about your magazine and watch for each issue. We are anxious to have the complete set. Wouldn't it have been kinder to your subscribers to have sent them Volumes 1 and 2 than to sell them at special prices? Frankly, I was very much annoyed by that announcement. I am sending my renewal for two years.

. . . Would it be possible for you to tell me where I can obtain the two issues I need?

Flora K. Hess
Brooklyn

To the Editors

. . . feel that an article on planning purchases of fabric would be helpful.

Julius D. Smolen
Annetta Dresses Inc.
New York, N. Y.

We are planning a series of this type of article designed to be of help to manufacturers, and piece goods buyers. As beginning readers in this category may find page 88 of this current issue both helpful and interesting.

TO THE EDITORS:

You informed me that Vol. 1 No. 1 is not available which is the number we lack. This lack is very distressing to an art library

Despite offers from late subscribers to pay as high as \$10 to \$20 for Volume One of American Fabrics, we have never sold this volume other than at the list price of \$2.50. To a carefully limited list we have offered the first four volumes packed in a special binding at a cost of \$15 the set. This price was arrived at through totaling the list price of the four volumes plus the cost of special binding and packing. Primarily these sets were designed for libraries of large firms and for technical schools and universities. We have repeatedly tried to buy back Volumes One and Two at the full issuance price so that we might fill a portion of the many requests received from people who are anxious to get these volumes. Frankly, we have not been very successful in purchasing these numbers. As fast as we are able to secure them, we are arranging to send them to those readers requesting them.

FIEDLER records Khatchaturian's "Masquerade Suite" for RCA Victor



IN Cords
IT'S THE
"Know how"
THAT COUNTS

IN CORDS IT'S THE "KNOW HOW" THAT COUNTS

In the RCA Victor Recording Studios . . . the Boston "Pops" Orchestra sits inertly until Arthur Fiedler takes the podium. Then dull silence becomes golden sound. With "know how" akin to wizardry the conductor weaves a pattern of the bows, the brasses and the baton into buoyant and gay music. This "know how" is a combination of special genius, long study and years of endeavor.

At Raycrest Mills we pride ourselves on the "know how" in producing America's best cord fabrics. Since before the turn of the century, our mills have been constantly improving their techniques, craftsmanship and styling to anticipate and fulfill the demands of ever-changing fashion phases.

As a result, leading cutters and consumers alike accept Raycrest Cords as the criterion by which all others are gauged.

The mills that make RAYCREST *Colonial*
rayon and combed cotton CORDS
have been making fine cords since 1896
for manufacturers of fine men's and women's apparel.

*Reg. U.S.
Pat. Off.



RAYCREST MILLS INC. 1071 Avenue of the Americas, New York 18, N. Y. Manufacturers of Rayons and Fine Cottons

Franco Scalamandré has reproduced this charming Toile de Jouy print from the original in blue and white, which dates back to approximately 1790. The fabric was used as bed hangings in the home of Colonel Hiram Smith at Troy Hills, New Jersey. Both the bed and hangings were purchased by the Washington Headquarters, Morristown, New Jersey. This lovely print is now available, through your local decorator only, in blue, red, green, and sepia.



Louis XIV Bed

Scalamandré Silks, Inc.

Manufacturers of Fine Drapery and Upholstery Fabrics and Trimmings

SCALAMANDRÉ SILKS, Inc. • 598 MADISON AVE. • NEW YORK • also BOSTON • CHICAGO • LOS ANGELES • SAN FRANCISCO

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WEST COAST OFFICES—under management of Donald Skinner. Los Angeles Office at 719 North La Cienega Blvd.—Frank Diemel. San Francisco Office at 545 Sutter Street—Fred Durkee

CHICAGO OFFICE—under management of Stanley Freeman and Mat Zarko, Merchandise Mart—Room 610

BOSTON OFFICE—under management of Carleton V. Earle, 420 Boylston Street—Room 411

DICTIONARY OF WOOL AND WORSTED
TEXTILE TERMS • PART II



J. F. Blunt

Franco Scalamandré has reproduced this charming Toile de Jouy print from the original in blue and white, which dates back to approximately 1790. The fabric was used as bed hangings in the home of Colonel Hiram Smith at Troy Hills, New Jersey. Both the bed and hangings were purchased by the Washington Headquarters, Morristown, New Jersey. This lovely print is now available, through your local decorator only, in blue, red, green, and sepia.



Leonbruno-Bodi

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DICTIONARY OF WOOL AND WORSTED TEXTILE TERMS • PART II



J. F. Clark



Women Working Wool About 560 B.C. — from a Greek Jug Collection of the Metropolitan Museum of Art

DICTIONARY OF WOOL AND WORSTED TERMS — PART II



ABRIC: A widely used textile term meaning cloth, material, goods or stuff. Garments are made from fabric which may be woven, knitted, or felt. Hosiery, lace, and decorative materials may be called fabric.

Cut lengths of fabric are shipped selvage to selvage, and face to face to give protection in transit and handling.

FABRIC CONSTRUCTION: 1. The number of warp ends and filling picks per inch in woven goods; sometimes referred to as pick count or count.

2. In the larger sense the term implies the weave, pick count, yarn counts, weight per yard, type of gray goods, type of finish, finished width and gray goods width.

FABRIC COUNT: The number of warp ends and filling picks per inch in woven fabric; also called texture, thread count, pick count.

FABRIC WEIGHT: 1. Some cloths are sold on the ounces-per-yard basis, such as a 13½-ounce suiting, 16-ounce covert coating. The fabric is linear yard of 36 inches while the finished width is specified as 56 inches or whatever the actual finished width happens to be.

2. Some mills sell their products on the yard-per-pound basis, using either 4, 6 or 8-ounce fabrics as the cleavage line. A cotton drill cloth, for example, might be listed as 2.50, which means that there will be 2.50 yards to the pound. This plan is used when sheer, lightweight fabrics are considered. Some fabrics, for example, organdy and voile, may weigh less than 1 ounce per yard, thus there may be 19 or 20 yards to the pound.

FACE-FINISHED FABRIC: Cloths finished on the face only. Much resorted to in case of meltons, kerseys and other overcoatings. The weaves used are such that they will permit the type of finish, notwithstanding the fact that the texture is high and the interlacings tight. Plain, twill and satin weaves are used jointly in proper construction of the various face finish cloths. Other face finish cloths are bolivia, boucle, chinchilla, montagnac, tree-bark cloths, Saxony overcoating, Whitney and Worumbo finishes.

FACED CLOTH: Fabrics which have a separate warp or filling on the back of the goods.

FACTORY YARN: Coarse, unscoured woolen yarn, used for knitting hose, mittens, etc.

FADGE: Australian term for irregular packs of wool that weigh from 80 to 200 pounds.

FALKLAND ISLAND WOOL: Coarse wools, usually of the cheviot type, raised in the islands of the South Atlantic adjacent to the coast of South America.

FALL WOOL: That which is shorn in Texas and California in the fall of the year. These are the only places in the world where sheep are shorn bi-annually, once in the spring and again in the fall. The reason for this is due to climatic conditions and the fact that the wool from these areas is infested with a small burr that is detrimental to the fleece and causes a reduction in the selling price. Texas, incidentally, is the largest wool-producing state in the Union; its wool is much used in this country, since it possesses many fine qualities for medium to heavy woolen fabrics. (See Fleece Wool.)

FALLEN WOOL: Is that taken from dead sheep; inferior in all respects to fleece wool.

FALLER: An important part of the gill box that is used in treating worsted fibers. It straightens the fibers by paralleling them, takes out remaining portions of minute foreign matter, and carries the stock from the back roller of the frame to the delivery end of the machine.

There is a double set of pins on each faller, one set is slightly longer than the other one in the upright arrangement. The device extends the width of the machine and there are from 14 to 18 teeth per inch in each set of teeth or pins.

There are 18 fallers on the gill box. Twelve of them are always in action with the fibers, the other six are always out of action. They are worked by means of screw shafts and the principle of pitch. The ends of the fallers work in slots governed by the screw shaft. They are given a backward, upward, forward and downward movement. It is only on the forward action that the pins come in contact with the fibers to aid in paralleling the latter. Gill boxes have a draft of about six, which means that for every inch of stock fed in there are six inches delivered by the front rollers. Doubling up on ends fed into the machines offsets the drafting done on the frame.

Gilling is a rather delicate treatment that is given to the fibers and it must be watched closely. Too much racking of fibers has to be guarded against; clogging of the pins, breaking fibers and slippages must also be prevented when the machine is in action. See Gilling.

FALLER WIRES: Long, sectional wires on the mule spinning frame which guide the spun yarn onto the spindle and aid in shaping the cop.

FANCY BACK: General term for any backed fabric, the back of which differs distinctly from the face of the goods, as in the case of plaid-back overcoating.

FARM METHOD: A method of raising sheep in this country and used chiefly in wool growing states east of the Mississippi River. The sheep are kept in fenced-in pastures and provided with shelters of various types as protection against the elements.

FARM WOOL: The opposite of Territory wool, the term refers to wool raised on farms, in fenced-in areas, a popular method of raising sheep east of the Mississippi River.

FASH: British term for clippings and other small wastes from woolen fabrics.

FAT-TAILED, BROAD-TAILED SHEEP: Found in the Balkans, Asia Minor and Russia, these common sheep have a tail of large size that contains valuable fat, the most important product of the carcass. The fibers of the animal are coarse and kempy and are classed in the carpet grade in wool classification. Fat-rumped sheep are akin to fat-tailed sheep.

FEARNAUGHT: 1. English overcoating of the cheviot group. The fabric is heavy in weight and the filling yarns aid in obtaining the well-known shaggy face finish of the goods. Re-used and re-manufactured wools are often used in the goods.

2. A machine used in opening-up and mixing wool which is difficult to manipulate because of cottiness or rather long staple, as noted in carpet wools. Action of the machine is made up by the use of a large,

rotating cylinder covered with hooked, spur teeth which mesh with smaller rollers around the circumference of the main cylinder.

FEATHER CLOTH: Woven or knitted woolen fabric in which little feathers are worked into the goods.

FELL: A skin, hide, fleece or a covering of hair or wool.

FELLING MARKS: A few colored yarns woven into woolen and worsted cloth at the beginning and the end of the cut when the material is being woven in the loom; shows where the one cut ends and the next one begins.

FELLMONGER: One who deals in fells or sheepskins.

FELLMONGERING: English term for wool pulling.

FELTED AND FELT MATERIALS, DIFFERENCES BETWEEN:

1. **FELTED FABRIC:** This type of woven material is also known as Fullled or Milled cloth. Felting, fulling or milling is the process resorted to in order to give woven cloth a thick, compact, substantial feel, finish, and appearance. The weave construction of the goods is covered up and not seen when the cloth is examined. Napping and shearing may be applied to aid in making felted cloth. The effect may be produced on woolens and cottons.

Felted material runs from medium to heavy in weight. Most of it is used in outerwear during the cold months of the year.

Cloths that may be felted are: flannel, cricket cloth, molleton or silence cloth, many types of overcoating, such as melton, kersey, beaver and broadcloth, fleece coats, reefers, ulsters, and heavy uniform goods. Certain suiting and dressgoods material, robes and blankets are felted.

The process of fulling and felting is like that of a person trying to remove a spot or stain from a cloth or garment. In rubbing the affected area the cloth has the tendency to felt or mat, and cause the fibers to more or less interlock. This tends to cover up the weave construction and gives the goods a felted appearance.

Soap, heat, water, friction and proper temperatures produce the felted effect seen on woven goods. Felting covers up the spaces between the interlacings in the weave, gives compactness to the goods and thus affords more warmth to the wearer. The heat given off by the body is held in suspense longer, thereby keeping out the cold.

2. **FELT FABRIC:** A felt cloth is made with no system of threads, but is constructed by an interlocking of the fibers of stock to be used. There is a woven felt cloth, however. It is papermakers' felt cloth, that is used in the newspaper presses and is made of the best wool obtainable. The nature of the work that this fabric does makes it necessary that the fabric be woven.

Felt fabric is made by subjecting the stock to be used to heat, moisture, water, pressure, and in the case of derby hats and other stiff felts, shellac. The amount of shellac to be used depends on the stiffness of the material that is wanted.

Leading felt cloths are — felt hats, the most important felt item; banners, pennants, slippers, linings of many types, piano hammers, board erasers, insoles, etc.

Any and all types of stocks, substitutes, wastes, etc., find their way into felt cloth.



Felting action of wool by interlocking of scales.

FELTING ABILITY: Wool yarns can be made to interlock under the heat and the pressure of proper finishing processes.

FENCING: Mill ends in England.

FENTS: Short lengths of cloths classed as seconds; also used to imply end pieces.

FETTLING: British term for the cleaning and stripping of card clothing on woolen or worsted cards.

FIBER: An individual strand or filament that is very slender and fine in diameter, such as human hair, wool, camel hair or cotton. It is the smallest unit in woven, knitted, felt, braided or plaited material. However, several strands may be combined to make the fibers ready for spinning, weaving and knitting purposes. Compare this term with the

individual hair on the human head.

FIFTH COMBING: Wool obtained from the thigh area in grading a sheep fleece.

FILLED GOODS: Woolens which contain varying amounts of flecks.

FILLING: 1. An individual yarn which interlaces with warp yarn at right angles in weaving fabric. Also known as pick or filling pick. Filling usually has less twist when compared with warp yarn.

2. Weft, the English term for filling, is used in this country in the carpet trade. This term, at times, is rather misleading and is sometimes confused with woof, the English term for warp.

FILLING BACK SERGE: Serge of one warp and two fillings. Has same characteristics as French-back serge.

FINE: Used in the American Blood System of grading wool, it refers to the highest, finest and best grade of wool. Designated in grading with a range from 64s to 80s.

FINE DELAINE WOOL: A fine Merino wool of about 2½-inch staple used in the best worsted yarn for expensive fabrics.

FINE WOOL: Implies the best grade of stock taken from a fleece in sorting wool for the several grades. It includes XX, X or ¾-blood wool, and sometimes ½-blood wool. The wool possesses the following characteristics: short fiber, the greatest number of serrations to the inch when compared with all other grades of wool, loftiness, springiness, excellent working properties, and considerable oily feel, because of the high amount of yolk present.

FINE WOOL BREEDS: Descended from the original Spanish Merino sheep, these breeds include Australian, Argentine, Ohio, Rambouillet, Saxony, Silesia, South African Merinos.

FINGERING YARN: A worsted knitting yarn in which the lower qualities are not combed, the noil being allowed to remain so as to give fullness to the thread. In many world centers for hand knitting the term fingering is considered synonymous with worsted yarn.

The origin of the term may be derived from the hand spinning days to imply a process of passing the yarn through the fingers to obtain a straighter run of the fibers. Hand knitting and finger knitting are considered as synonymous in the British Isles.

FINISHER CARD: The third or last card in a three-set carding layout used in carding wool. By means of the tape condenser the stock comes from this card in the form of roving.

FINISHING: The art and science of making materials presentable to the consuming, buying public. Cloth is converted from the gray goods state, as it comes from the loom, into a fair, medium, good, or excellent cloth ready for usage. Textile fabrics are "made in the finishing," as there has never been a perfect yard of cloth, free from defects of some sort, woven. Finishing takes care of these defects in the material.

FIRST COMBING: Long wool taken from the sides of the sheep fleece; of choice quality.

FIRST PIECES: Long skirtings taken from wool fleeces after the broken bits have been removed.

FLAKE YARN: Yarn that is spotted by interspersed round or elongated series of lumps, nubs or flakes. This novelty yarn is used for fancy stripings and effects in men's and women's wear, children's coating and novelty dressgoods. Other fancy yarns are: Knickerbocker, boucle, bourette, bug and nub.

FLANNEL: Loosely woven cloth of simple weave which the dull finish tends to conceal. Cloth is found in standard blue and in fancy effects, chiefly in stripe form. Material is used for suiting, uniform cloth, outing material and in night wear. Flannel cloth originated in Wales. There is considerable variance in weight and texture in this cloth.

FLEECE: 1. The mass of fibers taken from a sheep at shearing time. The fleece is made up of wool fibers, yolk, suint, folder, dung, pebbles, etc. It has to be carefully sorted and scoured before machine manipulation to manufacture yarn.

2. The name for a soft-feeling pile fabric which may be used for dress-goods and lining of some coats.

3. A heavy, compact, long-napped over coating much in use today. Interlacings are well covered by the nap. Range from low quality to high quality, expensive fabrics. Usually, however, the fabric is of good grade and it gives the wearer long service. The material may be somewhat cumbersome to handle in manipulation and the nap should be well cared for by the consumer. Stock, skein or piece dyed, the fabric ranges from

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15 to 25 ounces per yard in weight.

4. Waste stock taken from carding machines — cotton, wool or worsted — and made into a flat layer form. This by-product or waste finds use in the manufacture of low quality yarns.

5. Clip wool contrasted with pulled wool, which is obtained from dead sheep.

6. The words, "fleece" and "fleecy" cannot be used unless the fiber content in a fabric comes within the wool class.

FLEECE WOOL: The entire coat of wool taken from the sheep at shearing time by hand or power clippers. Shearing is comparable with a person receiving a haircut. It is done annually in the Spring, with the exception of Texas and California wools, which are obtained in the Spring and Fall. Sheep from these two states are sheared bi-annually because of climatic conditions and because of the fact that the wool is infested with small, spiral burrs that cause the wool to be sold at a few cents a pound lower than other wools.

Because of the presence of yolk, suint and foreign matter, which cause the fibers to become matted and stick together, the fleece may be picked up as a single piece.

Fleeces are put into burlap bags, packed, and tied so that they may be shipped immediately. Wool bags weigh from 200 to 300 pounds.

Grease Merino fleeces may weigh from 16 to 22 pounds; the poorer grades will average from 6 to 12 pounds. It is interesting to note, as a general thing, that the smaller the sheep in size and weight, the better is the quality of the wool, the heavier the fleece, the more the serrations, the greater the number of fibers to the square inch, the more expensive the wool, the better the working properties, the more the yolk, the less will be the suint.

FLEECE-LINED: Cloths in which one side is very soft and fleecy in feel and appearance; may be woven or knitted; a broad term.

FLEECED: Applied to fabrics of several types which have a soft nap.

FLICK: The nap on flannel and kindred materials is frequently called flick in the British Isles.

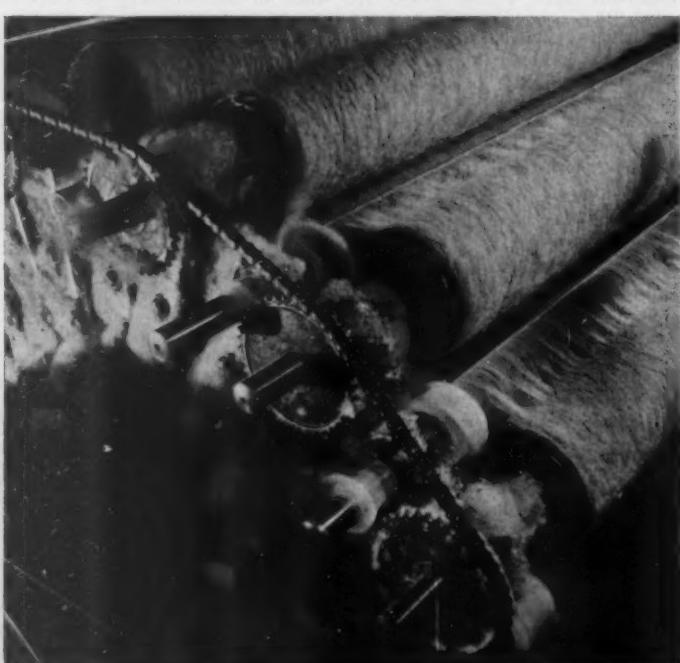
FLOATS: Caused by an end or ends failing to weave into fabric in the manner in which they should. The loom not functioning in the proper way will also cause floats. The weaver, because of laxity in fixing ends that need attention, is another cause. Incorrect drawing-in or reeding-in can cause one or more ends to form float areas in cloth. Floats can be remedied in the dry finishing department in the mill as a last resort.

FLOCK: 1. A number of animals, especially sheep, living or herded together.

2. A lock of wool or hair.

3. Woolen or cotton waste, old rags, etc., reduced to a degree of fineness by machinery, and used for stuffing.

4. Very short fibrous particles of wool, rayon, cotton, etc., chiefly those



FLUFF — which accumulates on machinery must be constantly blown away by compressed air.

from shearing pile fabrics, napped goods, etc. Sometimes wool has sufficient length to be used in blends, but it is often powderlike in form.

5. Rayon flock obtained from rayon staple or tow, as well as from the waste materials mentioned above.

FLOCKS: Soft, short fibers of wool thrown off by certain processes of woolen and worsted manufacture.

FLYER SPINNING: A method of spinning worsted yarn. The roving, to be spun into yarn, is fed into the back rollers, passes between the carrier rollers and is delivered by the front rollers to the flyer. Spinning is done by means of the hollow arm on the flyer. The inverted "U" shaped flyer sets over the top of the spindle. From the front rollers, the stock passes downward and through a hole in the top of the flyer, and emerges from an adjacent hole just below the top opening. It then passes through the hollow arm of the flyer attachment. The solid arm does not come in contact with the fibres. As the yarn emerges from the bottom of the hollow arm, it is wound two or three times around the presser finger, and then goes through an opening at the tip of the finger, where it passes onto the bobbin which fits around the spindle.

The action of the spindle, flyer and bobbin completes the spinning in entirety. The action of the carriage on the machine insures even, uniform winding of the yarn onto the bobbin at the nose, body and heel.

The function of the presser finger is to act as a guide, and govern the yarn in its passage through the hollow arm of the flyer to the winding on the bobbin. It regulates tension, as well.

A flyer lead on the machine means that the flyer goes slightly faster than the bobbin. Bobbin lead means that the bobbin goes at a slightly faster rate of speed than the flyer. Flyer lead will give a softer yarn than bobbin lead.

Three of the four methods of spinning worsted yarn — cap, flyer and ring — twist and unwind by friction. They may produce a rather bearded, harsh yarn that is not as cylindrical as mule spun yarn.

FOLD: 1. Refers to the number of ply in a yarn.

2. A layer of cloth.

3. Cloth which has been doubled such as selvage to selvage or end to end.

FOLDED YARN: English term for a ply-yarn composed of several single ply-yarns.

FOREST WOOL: Pine needles are treated and reduced so that they may be mixed with cotton or wool for use in coarse materials.

FORESTRY CLOTH: Used by the United States government for uniform cloth, overcoatings, trouserings, knickers, shirts, blouses, etc. The cloth is olive drab in color and it is made from a twill weave. Made of worsted, wool, cotton, mixes, etc. This cloth is used essentially in the Forestry Service of the nation but is likewise utilized by some other departments. In short, the name may be nothing more than another term for khaki cloth.

FOULE: From the French verb "fouler," to full. The cloth is made of a twill weave, is unsheared and unsinged. The face is quite uneven and rough. Much shrinking gives the face its characteristic finish.

FOURTH COMBING: Indicates the wool taken from the sides and the shoulders of an average fleece, grades to about 58s.

FOX: An animal well known in every part of the world. It varies in color from black, red, silver-cross, silver gray and white. Foxes are not only wild, but are also bred in various countries on an extensive scale. A few years ago fox growers surprised the market with an entirely new hybrid animal of an unearthly platinum color which is called Platina Fox. Fox fur has an average micron diameter of 15.2 and is highly prized by furriers who use it for scarves, muffs, jackets, coats and trimmings. The fur is also used extensively to provide softness in wool blends for the textile industry. Its price for this use depends on the blend.

FREE WOOL: Wool free from defects, especially burrs. Also means wool that has scoured to the white evenly and cleanly.

FRENCHBACK: A cloth with a corded twill backing of different weave than the face of the cloth, which is clear finish in appearance. It is a staple worsted cloth. Back weave is of inferior yarn when compared with the face stock. The backing gives added weight, warmth, more texture and stability to the cloth. The interlacings are covered up better than in the average single cloth. Frenchbacks can be made with little extra cost to the cloth. Fabric is usually made of two warps and one filling. It is piece or skein-dyed, weight ranges from fifteen to twenty ounces per yard. Cloth has good feel and clinginess and may be used for formal or informal wear.

FRENCHBACK SERGE: Men's wear serge of two warps and one filling. Runs from 16 to 18 ounces per yard in weight, is piece dyed, given clear or semi-finish. Used much in winter suitings. Quality and price vary considerably.

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FRENCH BACKED TWILL: A worsted or cotton-worsted suiting fabric made with a twill weave on the face while the filling is woven on the back in a satin order; a one-warp, two-filling formation.

FRENCH COMBING WOOL: Fine wool with a staple of $1\frac{1}{2}$ to 2 inches; a large part of Territory fine clip is of French Combing length. The term implies stock that is ideal for "top making" as apart from staple or fine combing and Delaine wools.

FRENCH DRAWING: This worsted operation gives the ultimate yarn a soft, cylindrical and kindly feel. No twist is given the worsted fibers to make the fluffy yarn, and it is in this respect that it differs from the Bradford or English system of making worsted yarn.

Twist in the French system does not begin until the stock is actually being spun into yarn on the spinning frame. The French, because of the excellent methods produced by the Heilman method of combing, are able to comb fibers as short as one and one half inches. This makes it possible to obtain even, uniform and cylindrical yarn on the spinning frame.

Also known as the Franco-Belgian system.

FRENCH MERINO: Name for Rambouillet, the merino sheep of France.

FRENCH SERGE: Very high type dressgoods with a fine, lofty, springy feel. Superior to the average run of serge and one of the best cloths on the market. Warp may be singles or doubles and filling is usually single-ply worsted. Weight runs from six to ten ounces per yard. Fabric is piece or yarn-dyed. An ideal cloth for women's wear of the better sort. The yarn is cylindrical and has the best of tailoring qualities. The best of this cloth is imported from the noted textile centers of France — Arras, Lille, Roubaix, Rouen, Turcoing and Fontainebleau.

FRENCH SPUN: Worsted yarn which has been spun on the French method in contradistinction to the English or Bradford system.

FRIEZE: Heavy woolen overcoating with a rough, fuzzy, frizzy face. Cloth is said to have originated in Friesland, Holland. Irish frieze has an established reputation. Cloth ranges from 22 to 30 or more ounces per yard. Much used in times of war as overcoating for soldiers. The grade and quality vary considerably. The average army frieze is made of cheap stock, is stock-dyed, harsh and boardy in feel, has much flocks in it and is not any too serviceable. A composition of frieze could be 67% of three-eighths wool and 33% of shoddy and reworks. Much adulteration is given the cloth, hence the wide variance as to the quality.

Lightweight frieze is now made with a blend of spun rayon and wool.

Double cloth constructions are used in the overcoating material, which gives fair to good service.

FRIEZE YARN: A tightly twisted surface yarn which gives a rough, nubby appearance to the pile effect in carpets. In addition to use in plain colors, it is used to form designs against plain grounds and thus give an engraved effect in the product.

FROWSY WOOL: Lifeless appearing wool with fibers more or less topsy-turvy; the opposite of lofty wool.

FULLING: A process in the finishing of woolen cloth. The cloth is dampened and beaten under heat which causes shrinking, increases the weight, and obscures the weave of the cloth.

FULLING STOCK: Pertains to the wooden beaters or mallets used in fulling cloth.

FUR FABRICS: Large class of pile fabrics of wool, spun rayon or other fibers, imitating various furs by dyeing and special finishing. Fabric can be either woven or knitted. Any variations of basic weaves are used. The fabrics are used in popular priced winter coatings and trimmings.

FUSTIAN: The origin of this cloth is traced to the Egyptians and the Arabs. The fossatum or walls that protected one of the Imperial Legions became the nucleus of the city of Cairo, Egypt. It was in the Fustat, or old Arab Quarter of the city, that the cloth was supposed to have been first made. Cotton and linen were used in the fabric.



ABARDINE: Construction is the same as for cotton gabardine; a 45 or 63-degree twill. These weaves give the characteristic, single diagonal lines noted on the face of the cloth. Material is piece dyed and used in men's and women's wear. Combination of yarn as to color and cast may be used, as in the case of covert cloth. In this event, the yarn should be skein dyed. It is also possible to use the stock dyed method. Because of the twist in the yarn and the texture, the cloth wears very well and outlasts similar materials used for the same purposes. Weight ranges from eight to fourteen ounces per yard, clear finish is given. Cotton yarn is sometimes found as the warp structure in the cloth.

Cotton gabardine is made with carded or combed yarn. The twill line is usually to the left if made with all single-ply yarn, and to the right when ply-warp and single-filling are used.

Rayon gabardine simulates the cotton fabric and has about the same uses.

GAIT: A term used in the English woolen trade to denote a full repeat of the draft in harness weaving, or one complete row of Jacquard harness cords in the comberboard, usually 8 or 16.

GALASHIELS: 1. Popular Scotch tweeds made in and around this district in Scotland.

2. Scotch system for numbering woolen yarn. The standard is a cut of 300 yards, which weigh 24 ounces, so that the Number 1 yarn would have 300 yards of yarn to the pound. Also known as "gala."

GARE: Glossy, kempy fibers taken from the legs of sheep. Gare will not color evenly and much difficulty is encountered in blending and mixing it with better stocks.

GARNETTING: The process of recovering the fibers from hard twisted thread wastes, rags, clippings, etc., esp. of wool. The object is to thoroughly break up the material and return it to a fluffy fibrous condition so it can be reused in blends, or in some cases alone. A garnett is used for the treatment.

GATHERED WOOL: Wool collected from pastures, hedges, fences and out-houses.

GAW: Scotch term for thin or weak places in cloth.

GENAPPE YARN: Worsted yarn is often gassed or genapped to do away with loose, protruding fibers; the yarn becomes clear, lustrous and smooth and finds use in braiding and trimming.

GENTILE DI PUGLIA: Originating from native sheep in northern Italy which were cross-bred with imported Spanish merino sheep at the end of the 18th century. This breed was a contributing factor to the famous Saxony merino breeds of Germany. One of the outstanding Italian sheep breeds, these hardy, migratory sheep give a fiber length of 2.5 to 2.75 inches. The wool is usually shorn bi-annually.

GERMAN MOUNTAIN: Sheep of this name are extremely hardy and are found in the Bavarian and Austrian Alps, as well as in Italy. The wool is straight and has a staple of 6 to $7\frac{1}{2}$ ".

GERMANTOWN: A coarse, four-ply worsted knitting yarn with a slack twist. Term must not be used except to describe yarns made in Germantown, Pennsylvania.

GHIORDES KNOT: In Oriental rugs the ends of the hand knotted pile alternate with every two threads of the warp. This produces fewer knots per inch than Senna knotting which shows a complete loop formed by the yarn to give a pile effect from every space between the warp threads. Senna construction gives a denser, thicker and evener pile effect on rugs than the Ghiordean knot.

GHIORDES RUG: The original rugs woven in Asia Minor were made of wool or silk, fine in weave construction and intricate in design. These prayer rugs have a short pile tied in the Ghiordean knot effect.

Modern Ghiordean rugs are larger in size, not quite as good in quality, and have a long, loose pile effect with some cotton used in the fiber content.

GIGGING: The raising of nap on fabric by drawing it across rollers that contain teasels set in frames which extend the width of the machine. The bristles of the teasels "scratch-up" the surface fibers of the goods.

GILLING: One of the operations in the combing of fibers; gilling is an advanced form of carding which helps to separate the long, choice desirable fibers of the same length from the remaining short, immature or otherwise undesirable fibers. Only choice fibers may be gilled. The operation is comparable with a person combing his hair with the fine-mesh part of a comb. See Faller, Drawing.

GLANGORRA: English woolen homespun treated with antiseptics to resist disease germs.

GLENGARRY: 1. An English tweed cloth of the homespun and tweed group. Made from woolen yarns of the "hit-or-miss" type. This fabric often admits of the use of some so-called waste stock and low-quality fibers.

2. The Inverness or cape-overcoat. 3. A Scotch cap.

GLEN PLAID: The trade interpretation shows that it is a four-and-four and a two-and-two color effect weave in both warp and filling directions. The fancy over-plaid, seen in an overplaid, is missing in a Glen plaid.

GLEN URQUHART PLAID: Woolen or worsted suiting or coating material made with the ever popular plaid or overplaid effect from two or more colors; most combinations are made of three colors at least.



Ghiorde Knot

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Color effect weaves based on a plain or twill weave give the best over-plaids. The cloth is named in honor of the Glen Urquhart Clan of Scotland.

The fabrics are ideal for school, business and travel since they do not have the tendency to show the dirt when compared with many other garments.

These skein dyed cloths may be given any of the following finishes—clear, semi-finish or unfinished finish.

Worsted glens run from 9 to 12 ounces in weight, woolens from 12 to 16 ounces. Overcoating cloth would be much heavier in yard weight. The material is classed as a staple and is always in demand.

West of England and window-pane designs resemble glens to some degree.

GLORIA: A very closely woven, lightweight fabric used for umbrella covering. Generally made with plain weave but twills and satins are also used. Originally made with silk warp and fine worsted filling; also made with cotton filling, as well as all cotton. Rayon has come into popularity as a raw material in making this fabric.

GLOVER'S WOOL: Wool taken from slaughtered sheep by the lime process.

GOAT HAIR: In addition to mohair and cashmere, which are obtained from goats, there are two common types known as ordinary goat hair and meadow goat hair. The hair ranges in color from white to yellow to brown or black. The fibers have some use in lower quality fabrics.

GOBELIN TAPESTRY: It is made by one of the greatest tapestry concerns in the world. Gobelin is known the world over and is a real institution in world culture. There are over 400 of these tapestries extant which have the old quality pattern and workmanship. Some of them are well worth over one-hundred-thousand-dollars. Beauty in Gobelin is achieved by a clever medley of colors and skilled workmanship.

The Gobelin tapestry works was founded by Jehan Gobelin, member of a Flemish family that settled in Paris in the 15th century. Gobelins were taken over by the French Government in 1662, since then a national institution. Gobelin originally was a dyer in Rheims during the spirit of the Renaissance in France. The plant is located in Faubourg St. Marcel in Paris.

Royalty and nobility eagerly bought the genuine tapestries as they became available. The last of the Gobelins died in the 17th century and with him went the secret of the making of the vivid dyestuffs which enhanced the beauty of the products; the value, therefore, was increased with regard to the price of the tapestries.

The Hapsburgers bought many of the tapestries, some of which are so large in size that they are most difficult to hang. Walls were not of sufficient size to care for them. Museums now house many of these priceless works of art in weaving.

During World War One, the Austrians were willing to sell anything and everything, so it seemed, for relief in food, clothing and shelter, but they would not part with the Gobelins which would have brought them a fortune. They were sustained in this matter after the war by the Reparations Committee when there was some talk of Austria's war debt being paid off in part by giving the tapestries to the nations which had claims against Austria. Tapestries can be seen in many museums; a Gobelin, however, is a Gobelin and no other tapestries seem to measure up to them.

GODEY'S LADY: The outstanding magazine, in the nineteenth century, on fashion, style, manners, morals, and customs. Edited by Sarah Josephine Buell Hale, a genuine contributor to American life, it may be safely asserted that no magazine of this century can cope with her Godey's Lady in influencing American thought from the social aspect.

The aim of the magazine was to "shed a beacon-light of refined taste, pure morals, and practical wisdom." Sarah Hale's outlook was akin to that of the majority of women of her era; she opposed woman's suffrage, believed a woman's place was in the home, but was a strong advocate for education of women.

GOODS: Merchandise sold in textile markets, department stores, neighborhood stores, general stores, etc. Considered more or less synonymous with cloth, fabric, stuff, stock.

GRADE: 1. The quality of relative fineness of wool.

2. Sheep of mixed blood, showing no particular breed characteristics; also applied to cross-breed sheep.
3. Means the particular quality of wool, cotton, flax, hair fibers, etc.
4. A system of scale used in classifying certain things with regard to quality, price, length, weight, size, etc.

GRANADA: From the Italian "granito" and the Latin "granum." In English the term means "grained or grainy." The material is a fine, face

finished cloth, made of worsted stock. Often dyed black. Broken up appearance of the weave tends to give fabric the regular granular effect readily noted when the cloth is examined.

GRANITE CLOTH: Made of wool, worsted or other major textile fibers, the fabric is a fancy, irregular cloth with a pebbly, rough or granite-like surface and feel.

GRAY GOODS: Also spelled grey, greige, grieg. They are cloths, irrespective of color, that have been woven in a loom, but have received no dry or wet finishing operations. Gray goods are taken to the perch for the chalk-marking of all defects, no matter how small. These blemishes must be remedied in finishing of the cloth. Material is converted from the gray goods condition to the finished state.

Dry finishing operations may include: perching, measuring, burling, specking, mending, sewing, experienced sewing; shearing, napping, gaging, pressing, packing, wrapping and so on.

Wet finishing operations may include: dyeing, printing, washing, fulling, milling, scouring, soaping, shrinking, crabbing, tentering, sponging, decating, London shrinking, waterproofing, gassing or singeing; bleaching, etc.

GRAY YARN, GRIEGE YARN: Unprocessed yarn received from spinning mills to be bleached, dyed, finished or otherwise processed.

GREASE DYEING: Process used in dyeing serges and woolens with a cotton warp without previous scouring.

GREASE WOOL: Wool from the live sheep with yolk and suint intact.

GREASE WOOL, MARKETING OF: There are seven ways to sell grease wool to the prospective purchaser. It may be sold to:

1. A representative of the wool market, a wool expert.
2. The mill that is not located near the source of supply.
3. The mill in the locality where the wool is grown.
4. Buyers at wool auctions.
5. Buyers on the cooperative method of purchasing.
6. Users of wool by the consignment method.
7. Local dealers by growers who raise the wool as a side-line.

GREASE WOOL, CONDITION OF: Means the amount of "oil" there is in a fleece of grease wool. Oil implies the yolk and suint contained in the wool, and they are removed by scouring. The oil amounts found in fleeces range from about 30 percent in the poorest grades to about 65 percent in the best qualities. The more the yolk and suint present in the wool, the better will be the quality of the raw stock in working qualities.

GRENADA: A cloth made of black cotton warp and some hair fiber filling. A five harness, filling-effect satin weave is used.

GRENADE: 1. French table linen made in plain weave or small dobby loom effects.

2. A French table covering of good texture made from silk or rayon warp and woolen or worsted filling.

GREYFACE: A British mountain sheep developed by crossing Leicester rams and Blackface ewes, very popular in the Highlands of Scotland. The wool is coarse—about 32's—although somewhat finer than Blackface, and about 6 inches in length. Wool from these sheep is sometimes known as "Scottish cross."

GRISAILLE: French for gray, grayish. The warp and filling of this material have contrasting black and white threads which give the grayish appearance to the goods. The name is applied broadly to any grayish-colored material which does not have a definite name.

GRITTY WOOL: Dry, harsh wool which has an excess of sand and grit in it. Wool from the Dakota area is often gritty.

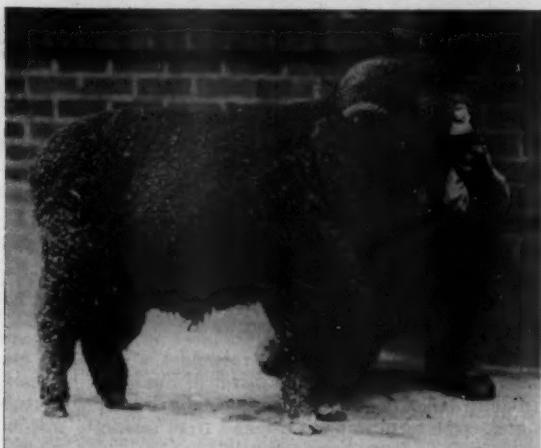
GROG: Any type of cloth woven "two-ends-together." Gives a basket or hopsack effect to the fabric.

GROS DE BERLIN: Woolen dress fabric made with alpaca or some other hair fiber filling.

GROS D'ISPAHAN: French dress fabric made of greige silk warp in which three ends weave as one end; filling is of worsted.

GUANACO: This animal is the ancestor and the common progenitor of both llama and alpaca, the domesticated varieties of the South American "hump-less" camels. Guanaco, found chiefly in Argentina, is the wild member of the llama family. The fleeces of the animals are not common in world markets.

GUMMY FLEECE: One in which the yolk is coagulated deeper than the outer lock-tips; often caused by shearing when the fleece is damp.



MERINO

RAM

*... finest wools
in the world*



OXFORD

EWE

*... a popular breed
in the mid-west*



SOUTHDOWN

RAM

*... a close, white
fleece — best of the
British staples*



COTSWOLD

RAM

*... wool used in
homespuns, tweeds,
cheviots, shetlands*



DORSET

ewe

*... staple noted
for its whiteness
and crispness*



BORDER

LEICESTER

RAM

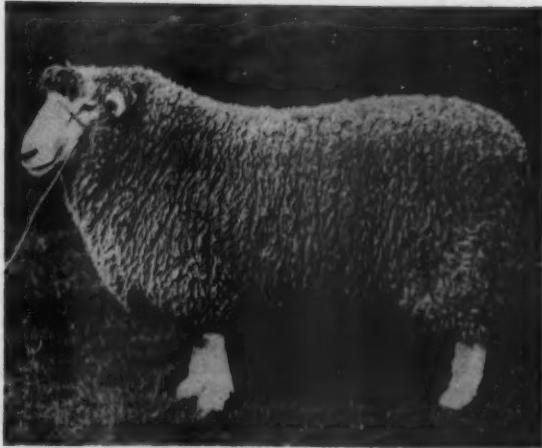
*... hardy, lustrous
wool with tendency
to reflect light rays*



CHEVIOT

EWE

*... a hardy type
of wool*



ROMNEY

MARSH

RAM

*... a dense, fine
grade of wool*



Gun Club Check Fabric.

GUN CLUB CHECKS: Men's and women's wear dressgoods used for street and sportswear. Three colors of yarn are used in making the cloth. The warp and filling make a natty combination in the cloth. Men's wear fabric may have a smaller check than women's wear cloth. Men's wear cloth could be laid out in warp and filling, as 6 blue, 6 brown, 6 green in warp and filling arrangement. Women's wear cloth could be constructed as follows: 12 light brown, 12 dark brown, 12 green, in warp and filling. Yarn sizes do much to determine the check sizes.



HABIT CLOTH: A fine quality, English woolen or worsted fabric used for men's and women's wear; the costume, dress or garb is often indicative of a particular rank, calling, or pursuit. Examples are nun's habit and riding habit.

HAINING WOOL: Popular Chinese wool used in carpet yarn.

HAIR: 1. Lacking felting properties, it is usually straight, non-elastic, glossy, and stronger and straighter than wool fiber.

2. Machine-curled and fluffed hair from the manes and tails of horses and other animals; used in padding of furniture and mattresses.

HAIR FIBERS: Specialty fibers obtained from animals other than sheep. Sometimes used alone but generally blended with wool, rayon staple or cotton and made into apparel fabrics, novelties, etc. The main one is mohair; others are alpaca, camel, cashmere, rabbit, etc.

HAIRCLOTH: A harsh, wiry, rough or stiff material made with all or part hair-fiber construction. Mohair, camel hair, horsehair and other hair fibers may be used to make interlining fabric for clothes, coating, upholstery, shirting, skirting, decorative and other fabrics which feature certain percentages of hair in their composition.

HAIR AND WOOL FIBERS, COMPARISONS AND CONTRASTS BETWEEN: An animal fiber consists of a root situated in the depression of the skin (hair follicle) and a shaft or the hair proper. A typical hair has three defined tissues:

1. Epidermis or the outer layer.
2. Cortex or the cuticular layer.
3. Medulla or the pith.

Long, stiff, elastic hair of the hog is known as a bristle.

Bristle hair is short, straight and stiff, with a medulla such as the body hair of a horse.

Beard hair is long, straight or slightly wavy; and the hair is regularly distributed, generally with a medulla, which gives the pelts of various animals their value.

Human hair and hair from the manes and tails of horses also belong in this class.

Wool fibers are soft and flexible and the pronounced serrations peculiar to wool cause wool fibers to felt or mat easily, a decided advantage of wool fibers over other animal fibers.

It is difficult to determine the point where an animal fiber ceases to be a hair, since the one by imperceptible gradations merges into the other, so that a continuous series may be formed from the finest Merino wool fiber to the rigid bristles of the wild boar. Thus, the fine, soft wool of the Australian merino sheep merges into the cross-bred sheep of New Zealand. This merges into the long English and Luster wool fibers, which in turn merge into alpaca and mohair materials with clearly marked but undeveloped scale structure. Again, such animals as the camel and the cashmere goat yield fibers which it would perhaps be difficult to classify rigidly as either wool or hair.

Wool fibers seem to make the most desirable fiber in the animal-fiber kingdom. Sufficient length, strength, and elasticity, together with certain surface cohesion to enable many fibers to be drawn and twisted in the spinning operation in order to form a coherent and continuous yarn or thread prove to be valuable properties.

The power of absorbing coloring matters from solution and becoming dyed thereby, and the property of becoming bleached or decolorized when treated with suitable chemical agents seem to give wool some advantage over the other animal fibers.

Wool fibers felt or mat easily, thereby causing them to have uses for which other animal fibers are unsuited.

The unmodified term Wool has special reference to the product obtained from the many varieties of sheep.

HAIRLINE: Narrow striped color effect that resembles a hair. The use of stripes and fine, fancy lines sets off the wearer of the fabric by making him appear slightly taller than he or she actually is. Hairlines are staple cloths and often come forth in great demand from season to season.

HAIR, HORSE AND COW: Obvious as to source, it is used in millinery trade, and in suit lining to help the garment retain its shape.

HALF BLOOD: A theoretical American designation of wool compared in fineness with full-blooded merino wool as a standard; it is supposed to be between a $\frac{3}{4}$ blood wool and a $\frac{1}{2}$ blood wool in classification. Half blood is inferior in all respects to $\frac{3}{4}$ wool, but is superior to $\frac{1}{2}$ wool.

HALF-BRED SHEEP: Certain British breeds developed by crossing Mountain types with Luster, Demi-luster, and Down breeds. Examples are Cheviot, Masham, Swaledale.

HALF-BRED WOOLS: The crossing of Luster and Demi-luster sheep with the Mountain types produced a type of British wool classified as half-bred. It ranges from 40's to 50's in quality, about 6 inches in length, and has a characteristic crispness making it very useful in tweed trade. This wool is often called fine crossbred.

HALF-COMBING WOOLS: Medium wools such as produced by the British Down breeds were at one time widely known as half-combing wools.

HALI: Turkish term for large size Oriental floor carpets and rugs.

HAMAMLIK: Turkish term for popular Oriental bathrugs which are made in squares.

HAMBURG YARN: A British woolen embroidery yarn which has a glossy finish. Ply may vary.

HAMBURG WOOL: A British embroidery wool finished with a gloss. Spun from fine worsted and dyed in brilliant colors. Usually of 4-ply.

HAMPSHIRE SHEEP: This down breed from county of that name in England is popular for crossbreeding in the western part of this country. The medium wool sorts to about 50's and the fleece, which weighs from 9 to 10 pounds, sometimes has black fibers in it. Shrinkage is about 30 percent.

HAND, HANDLE: The reaction of the sense of touch when fabrics are held in the hand. There are many factors which give "character or individuality" to a material observed through handling. A correct judgment may thus be made concerning its capabilities in content, working properties, drapability, feel, elasticity, fineness and softness, launderability, etc.

The term was originally applied to silk filaments, but the importance of a good handle to textiles has caused the term to take on more importance in other phases of this far-reaching industry.

HAND-ME-DOWN: 1. Readymade clothes.

2. Second-hand clothes; given from one person to another.

HAND WASHED WOOL: Wool washed before it is shorn from the sheep.

HANK: The unit of measuring yarn with regard to the number of yards of yarn to the pound. Examples: cotton, 840 yards; worsted, 560 yards; run wool, 1600 yards; cut wool, 300 yards; linen and jute, 3600 yards to one pound of a #1s yarn, etc.

HARCHA-BENI GUIL: An open-fleece Morocco wool which has a staple length of 2.75 to 3.15 inches; fleece weight is 4.5 to 5 pounds.

HARD FINISH: Fabrics which have been finished without a nap of any kind. The term usually refers to worsteds.

HARD SCOURED WOOL: Scoured wool having a moisture regain of 13.6 percent (equiv. to 12 percent moisture content), a combined ether and alcohol extractable matter content of 1.5%, and an ash content of 0.5%.

A Condensed Dictionary of Wool and Worsted Textile Terms

HARD WASTES: This includes yarn and thread waste, and hard ends. The spinning, spooling, winding, dressing and weaving departments of the mill supply this waste. Yarn wastes are kept separately in bags or bins according to color and quality. For example, a mill is spinning worsted yarn from $\frac{1}{2}$, $\frac{3}{8}$ and $\frac{1}{4}$ blood stock; the yarn wastes from each type of wool would be kept apart from each other.

A woolen mill would not put its white wastes in with merino white yarn waste, nor would it put solid color yarn waste with mixture waste.

The garnetting process is naturally severe on the fibers and a large percentage of the stock is much shorter than that of wool yarn from which this waste material is secured.

Yarn wastes are made from recovered fibers. Worsted fibers that have been recovered make a superior raw material since the fibers have good length, strength in spinning and felting properties.

Garnetted worsted hard ends are better than the best grades of fibers reclaimed from rags.

Woolen yarn wastes are usually garnetted and consumed within the mill where they have originated.

Hard wastes are usually graded for fineness and color as Fine, Medium and Low white or colored stock. Quality is often designated by the grade of the wool used, such as $\frac{1}{2}$ blood white thread waste, $\frac{1}{4}$ blood colored thread waste and so on.

HARDEESY: A 13-ounce, twisted yarn tweed made in gun club check motifs.

HARE OR JACKRABBIT: One of the well known animals in the United States, this rodent exists everywhere in the world except on the island of Madagascar. Its hair texture is wooly and of interest not only to the textile trade, but also to hatters and furriers. The hare's clipped outer hairs when blended with wool before the fabric is spun give the finished goods an appearance of hairiness. When the fur fibers are used, the end fabric is soft handle. The woolly texture of the hare's coat lends itself particularly well to felting. More than 50% of all fur fibers used in woolen clothing are selected from the hare, the angora goat and the plain rabbit. The price range of the fiber is from four dollars to ten dollars per pound depending on the fiber length, fineness and color.

HARGREAVES, JAMES: From 1754 to 1768, Hargreaves perfected methods of spinning yarn. His spinning jenny was the first machine to spin more than one thread of yarn at a time. Tradition has it that the frame was named in honor of his wife. He came from Standhill, near Blackburn, England, and is supposed to have received the idea "from seeing a one-thread wheel, overturned on the floor, when both the wheel and the spindle continued to revolve." The spindle had thus been thrown from a horizontal position to an upright one, and, if a number of spindles were placed upright, and side by side, several threads could be spun at once.

The spinning jenny was a forerunner of the spinning mule which was invented by Samuel Crompton in 1779, in England.

HARNESS SKIPS: Breaks in the weave or the failure of harnesses to work properly. Skips are often caused by harness straps that slip, snap or break and work out of the plane and place provided for them. Skips form floats on either the face or the back of the goods.

HARRIS TWEED: Under the terms of the British Board of Trade and the Federal Trade Commission, Harris Tweed refers only to woolen fabric hand woven on the Islands of the Outer Hebrides off the Northern coast of Scotland. This includes among others the Islands of Harris and Lewis.

It has been ruled on several occasions by the Federal Trade Commission to be unfair trade practice to use the term Harris Tweed to describe fabrics not in accordance with the definition referred to. This eliminates the question of imitations inasmuch as there is only one Harris Tweed.

This outstanding fabric is always hand woven. There are two types of Harris Tweed:

1. Fabric woven from hand spun yarn.
2. Fabric woven from machine spun yarn.

Comparatively few of the Tweeds are now woven from hand spun yarn because to spin such yarn for a length of fabric sixty yards or more much time and labor is consumed. Today only in very rare circumstances will the Crofters in the Islands take the time to spin enough yarn by hand for weaving into the piece.

There are some Harris Tweeds made from machine spun yarn and hand spun filling. Harris Tweed made from hand spun yarn is stamped to that effect in addition to the Harris Tweed Trade Mark. Harris Tweed is the registered Trade Mark of the Harris Tweed Association of London, which is a non-trading body set up under charter for the British Board of Trade to protect the article and to increase the appreciation of Harris Tweed throughout the world.

This activity is completely separate from the selling of Harris Tweed,

which is taken care of by the producers in the Islands, several of whom have representatives in this country.

The fabric is used in suiting, top-coating, overcoating, sports wear, ensembles, etc. The Harris Tweed Association, Ltd., is represented in this country by M. Stanley Brown, 110 East 42nd St., New York City.

HASLOCK: A lock of coarse beard hair grown over the pit of the throat of the merino sheep. The name has been applied somewhat indiscriminately to harsh wools at large, and to skin wool taken from mountain sheep.

HEAD: 1. An old English term to designate quality in the woolen sorting system. 2. A Scottish yarn measure of 1920 yards. 3. The skein or bundle into which flax or hemp yarn is made prior to packing for market.

HEAD WOOL: Wool from head and upper portion of neck of sheep.

HEATHER: A popular flower in the British Isles; it is the basis of the yellow dye used in dyeing Harris tweeds.

HEATHER MIXTURE: Named for the Scotch heather, it is a blend yarn used in the knitting trade, and in homespun and tweed fabrics. Stock dyed, basic colored slivers, slubbings, and rovings are drawn, drafted, doubled, redoubled, and finally spun into a yarn which will show the shade of the color or colors which predominated in the original blending, oiling, and mixing of the stock. Used in suiting, top coating, some over-coating, cap cloth, mufflers, golf hose, socks, stockings, knitting yarns.

Heathers, since they are stock dyed and can vary considerably in quality and texture, admit the use of inferior, low-grade wool, wastes, and substitute fibers. These fibers, however, have to be supported by longer staple wool which serves as the carrier or base.

HEATHER YARN: Yarn spun from a mixture of black, brown, and gray natural wool, together with small amounts of red and green dyed fibers.

HEAVY WOOL: Wool which has a high shrinkage in scouring.

HEILMAN COMB: This upright machine for combing worsted fibers as short as one and one-half inches in length, is the acme of perfection and does finer and cleaner work than the combers used on the English or Bradford system. The Noble or English comb rarely is able to comb fibers less than two inches in staple length.

In the Heilman frame, the fibers are held tightly at one end and well combed prior to delivery to the front rollers of the machine. The layout of the machine is simpler than the English frame; the porcupines of the Heilman comb do their work capably and neatly, and are based on the principle of combing one's hair with the fine mesh of the comb. Minute foreign matter is easily and effectively removed. Invented in 1845.

HERDWICK: An extremely hardy, active British mountain sheep that produces a long carpet wool. Wool from Herdwick is coarse and kempy, 28/32's quality, and about 7 inches in length.



Herringbone Fabric.

HERRINGBONE: Used for suiting, topcoatings, overcoatings, sport coats, dressgoods in men's and women's wear. The cloth gives a weave effect in fabrics that resembles the vertebral structure of the fish known as herring. The cloths are staples and always in demand. All herringbones are broken twill weaves but all broken twill weaves are not herringbones. The latter should balance perfectly to be called a herringbone and not a broken twill. Many types of stock, color and weaves are used in making the cloth.

A Condensed Dictionary of Wool and Worsted Textile Terms

HIGHLAND SHEEP: A hardy breed of sheep found in the extreme north of Scotland and in the Orkney, Shetland and Hebrides Islands. Largely of the Scotch Blackface type. Yield a coarse, rough, kempy wool mostly used for homespun tweeds and as a carpet wool.

HIGHLAND WOOL: Long staple, coarse quality British wool used for carpets, rugs and kindred materials.

HILDA: A lining fabric made with a filling face twill weave, cotton warp and alpaca filling.

HINDU BLACK: A breed of sheep raised in Berar and Central India, the fleece weighs only $1\frac{1}{2}$ to 2 pounds; the very coarse staple, 2 to 4 inches long, is wiry and varies in color.

HOG, HOGGETT, TEG, TEGGETT: Sometimes called virgin wool, it is the first fleece shorn from a sheep when it is about one year old. It is longer, finer, and is of higher quality than wether wool.

HOMESPUN: Originally an undyed woolen cloth spun into yarn and woven in the home with the rather crude machinery used by the peasants and country folk the world over. The industry came to the fore in the British Isles and then spread to the Continent. Owing to the substantial appearance and serviceable qualities homespun is woven to great extent on power looms today. Genuine homespun cloth supply is very limited, and much power loom cloth is sold as genuine homespun. The term is much abused and the gullible buying public often is fooled when buying the cloth as some particular quality. The cloth should always be made on a plain weave. Coarse, rugged yarn is used and quality varies much. The material is coarse, rugged and an ideal rough-and-ready type of cloth. All types and kinds of stock from the highest to the lowest go into the cloth in its wide range.

HONEYCOMB: A fabric made with a honeycomb weave and characterized by a pronounced cellular appearance. Generally made of 2-ply cotton or worsted yarns and used for coats, spreads, etc. Also called waffle cloth.

HOPSACKING: While the real hopsacking is a coarse plainly woven undyed stuff made of jute or hemp fiber, otherwise known commercially as burlap and serving among the hop growers as well as general merchandise shippers as bagging, the name has been applied to a class of staple and fancy rough woolen cheviot apparel cloths in basket weaves which resemble the original in effect.

Cotton hopsacking is used for dresses and coatings, printed decorative fabric and hangings.

HORSE HAIR: Russia sponsors the industry. The body hair of the horse is more lustrous than cow hair. The length is from 1 cm. to 2 cm. while mane and tail stock ranges from a few inches to several feet. It is used for stuffing in upholstery and summer horsehair hats, as a shape retainer in lapels of coats, and as "filler-in" stock.

"HOT-HOUSE" LAMBS: Lambs which have been dropped in the fall and winter. Also called winter lambs.

HOT TEST: Name given to the shrinkage test for wool when the scoured stock is weighed immediately after drying and before the material has had a chance to condition.

HOUND'S TOOTH CHECK: A medium-sized broken check often used in tweeds, clear-finish worsteds, etc.

HOUSE FLANNEL: A broad term which covers the several types of flannel used in the home. Most of the material has a cotton warp and woolen or worsted filling.

HUARIZO: The foal of llama sire and alpaca dam.

HUDDERSFIELD: 1. In Yorkshire, England, it is a center of the woolen and worsted manufacturers.

2. The name commonly given in this country to clay worsteds which originated in the mills of J. & B. Clay.

HUNGARIAN CARDING WOOL MERINO: This sheep breed was developed from crossing imported French Rambouillet with native sheep. Fleeces from rams approximate 20 to 25 pounds.

HUNGBACK: Some lightweight Scotch tweeds made in a 2-up and 2-down twill have checks, stripes or windowpane effects made with yarns woven in a 3-up and 1-down twill weave, the so-called "hung" yarns.

HUNGRY WOOL: Inferior wool fibers which are the result of the sheep's being poorly or improperly fed.

HUNTING SHIRT: 1. Any cotton, woolen, or linen shirt of subdued or inconspicuous color.

2. The deerskin, blouse-like garment used by trappers and frontiersmen; it is often very ornamental.



CE WOOL: A variety of fine two-ply worsted yarn mainly used for hand knitting and crocheting.

ICELAND WOOL: The wool from Icelandic sheep that have an outer covering of long coarse hair and a fine wooly undergrowth. This undergrowth is used for sweaters and shawls.

ILE DE FRANCE: French breed of sheep of good quality which has a fleece weight of 9 to 11 pounds; staple length of the wool is 4 to 5 inches, entirely white, and of excellent quality.

ILLUMINATED MIXTURE: The color effect seen on some woolen and worsted fabrics when a small quantity of bright color is used on a dark background.

IMITATION BACKED FABRICS: A class of fabrics largely used in the woolen industry for coatings and trouserings of medium weight. They are made from simple weaves, especially twills, rearranged to give an appearance similar to a true backed fabric. They may imitate either a warp or filling backed fabric and the constructions are similar to the cloths imitated.

IMITATION FUR FABRIC: Material made to imitate genuine fur. The cloth is pile or plush in construction, and distinctive finishes are applied to make recognition an easy matter. Wool, silk, spun silk, rayon, and mohair are used to make these fabrics, which are dyed solid colors or spotted to make the effect realistic.

IMITATION HAIRCLOTH: A stiff interlining cloth not made with horse hair, but entirely or nearly so of heavily sized vegetable fibers, although some of the better grades have some horse hair inserted. Iste is much used in this cloth.

IMITATION NATURAL WOOL: An imitation of natural wool produced by adding various dark colored fibers to white wool in order to prevent the material from showing soiled effect too soon.

IMPERIAL COATING: A worsted fabric woven with 2-up, 2-down twill weave from fine Botany worsted yarns. The construction is about square and the threads are closely set, giving a firm, durable cloth but of a somewhat hard handle. Usually dyed navy blue and showerproofed.

IMPERIAL SERGE: Very similar to imperial coating, but contains fewer threads per inch and is a softer cloth, suitable for dress and costume cloths.

IMPORT DUTY ON MANUFACTURES OF WOOL:

The duty on *manufactures of wool* is in two parts: a *specific rate* and an *ad valorem* rate. It is in two parts because it has a dual purpose:

1. The *specific rate* is in effect a protection for the wool grower. It would not make sense to have a duty on raw wool and then allow wool in the form of yarn or fabric to enter duty free.
2. The *ad valorem* rate on wool products is designed to afford protection for the textile manufacturer. The *ad valorem* duty is stated as a percentage of the foreign value of the item imported. It is intended to compensate for the higher cost of manufacture in this country.

The *specific rate* on most fabrics is set at 50c per pound. The Tariff Board in 1909, as a result of study, found that to make a worsted fabric it takes the equivalent of one and one-half times as much scoured wool as the fabric itself weighs when finished. This figure ($1\frac{1}{2} \times 34c$) should be 51c, but was evened off to 50c by Congress.

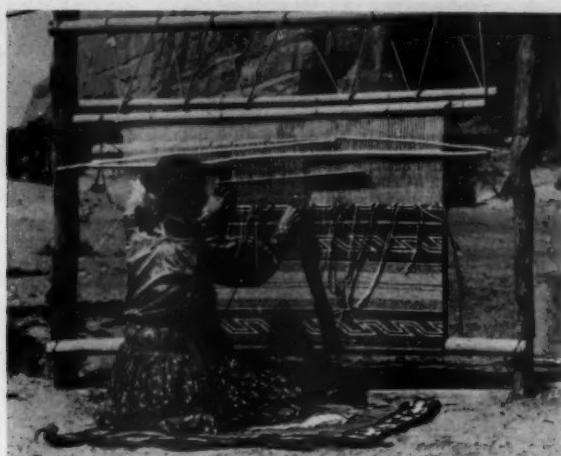
The *ad valorem* duty on wool piece goods valued at \$2.00 per pound was placed at 60 per cent by the Tariff Act of 1930, but was reduced to 35 per cent as a result of the Reciprocal Trade Agreement with Great Britain which became effective on January 1, 1939.

For example, the duty on a woven fabric weighing 16 ounces per yard and valued (abroad) at \$2.20 is:

1. Specific Rate: 50c per pound.....	\$.50
2. Ad Valorem Rate: 35 per cent of \$2.20.....	.77
TOTAL.....	\$1.27

IMPORT DUTY ON RAW WOOL: The duty on imports of *raw wool* is a specific amount stated in terms of so many cents per clean pound. The duty on apparel wool of the type generally grown in this country is 34c per pound of "clean content," which means a pound of clean wool with normal moisture content after scouring. Wools of the type not grown in this country are imported *free of duty* when used for floor coverings, press cloth, knit or felt boots or heavy fulled lumbermen's socks.

IMPROVED GERMAN FARM: This sheep breed was developed by crossing imported Merino sheep with native Bavarian sheep. The Merino type wool has a staple of $2\frac{1}{4}$ to 4 inches. These hardy sheep often travel as much as 250 miles when changing pasture. Fleece weight ranges from 8 to 15 pounds.



Navajo Indian Weaving Blanket — Knell Photo.

INDIAN BLANKET: All-wool or woolen filling blanket woven with characteristic Indian designs. The term should apply only to blankets actually hand-made by the Indians, and such blankets should be so marked. The genuine Indian hand-made blanket is more of a rug than a blanket. Today most Indian design blankets are power loom woven.

INFANTADO WOOL: A good quality Merino wool of Spain.

INGRAIN: 1. Name for Kidderminster carpets in this country.
2. Fabrics dyed in the fiber or yarn condition.

INGRAIN CARPET: Generally woven with a cotton or wool warp with wool filling; the width is usually one yard. The dyeing is in the thread or grain, which aids in distinguishing between ingrain and printed, piece-dyed or stamped carpets. The name is rather indiscriminately used, at times, to specify carpeting. Ingrain is the name for Kidderminster carpets in this country.

INSULATING ABILITY: Wool possesses good insulating properties since air-trapped between tiny scales noted in wool yarns there is only a slow passage of hot or cold air; thus, the body of the wearer is protected from extremes of heat and cold.

INTERMEDIATE CARD: The second card in a three-card woolen set. Usually has seven or eight pairs of workers and strippers. It is connected with the breaker card by an intermediate feed and transfers the stock directly to the finisher card by an angle stripper. Also called second breaker.

INTERSECTING GILL BOX: A type of gill box having two sets of fallers, an upper one in addition to the conventional lower set.

IN-THE-GREASE: Signifies wool in its natural state, as it comes from the sheep's back with all the grease and other impurities attached to it.

INVERNESS: A long, loose, sleeveless cape, fitted at the neck and hanging on the shoulders. This woolen or worsted garment comes in plaid effects.

IRISH TWEED: White warp and dark shade filling of blue, gray, brown or black feature this popular, rugged men's wear fabric. Used for suiting and coating.

ISPAHAN: A Persian woolen rug made with hand-tied knots.



ACKET, WOVEN OR FELT: Textile materials woven or pressed into tubular or sleeve form, ready for covering and shrinkage on a machine roll.

JACKING: Spinning term pertaining to the stretching of the yarn by the outward run of the mule frame carriage after the roving has been delivered to the feed rollers of the machine.

JACQMAR: A very fine worsted fabric so light in weight and supple that it drapes like silk satin.

JANUS CLOTH: A double-faced worsted fabric, each side different color.

JARRE: The coarse hair taken from rabbit pelts prior to making hatter's plush. It is used for mattress stuffing.

JEANNETTE: 1. A British woolen made on a 2-up and 1-down twill weave.
2. A lightweight jean cloth with a predominant warp effect on the face.
3. The name for a 1-up and 2-down twill weave.

JENAPPE: Another term which implies genapping or napping.

JERSEY: 1. A close-fitting knitted garment drawn on over the head. Worn for various sports, etc.

2. A plain knitted fabric originally of wool but now made of cotton, rayon, silk, etc. Formerly all jersey was made on circular machines, but rayon jersey is now commonly made on tricot machines. May be napped, printed, embroidered, etc., and used for underwear, dresses, and the like.

JERSEY WOOL: A fine, choice staple which is combed from the rest of the fleece.

JESUIT CLOTH: Suiting material of plain weave construction worn by the members of the Society of Jesus, founded by Ignatius of Loyola, Spain, in 1534. The cloth is rather coarse, dyed black, and is made from hard twisted yarn. There is considerable call for this tropical worsted, worsted or woolen cloth among religious orders throughout the world.

JODHPURS: Breeches cut full above the knee, closely fitted below, with cuff at ankle, sometimes with strap under foot; designed for horseback riding.

JORIA: East Indian wool, finer in quality than the similar Vicanere wool; noted for its springy staple.

K **ABUL WOOL:** A soft wool peculiar to Lahore, India, used in making high-grade shawls.

KALGAN: A Chinese carpet wool.

KALMUCK: 1. A coarse woolen overcoating made from rough yarns and finished with a very shaggy face.

2. Term used in Europe for a type of cotton blanket cloth made with two colors of filling, one forming the face and the other the back.

KANDAHAR: A good grade of East Indian carpet wool.

KARAKUL: Originally an Asiatic breed of sheep, the long carpet wool obtained from the fleece has made it a favorite in Texas. Lambs of the breed, one to three days old, are skinned and called Astrakan or Broadtail. Shrinkage is about 35 per cent. The name comes from the village of Kara Kul (Black Lake) in eastern Bokhara.

KARAKUL FABRIC: A heavyweight pile fabric of wool used for coating. Made to simulate broadtail fur or Persian Lamb.

KARAWAN: Turkish skin wool from native fat-tailed sheep.

KASHA CLOTH: 1. Fabric made from the hair fibers of the Tibet goat. Very soft in feel, and napped with a slight crosswise streaked effect in the darker hairs used in the cloth. Rodier Freres, Paris, introduced the fabric several years ago. Ideal for dresses, jackets, etc.

2. A tan colored cotton lining flannel.

3. A cotton flannel with napped face and mottled color effect bordering on tan or ecru; an unbleached soft-filled sheeting.

Mixed yarns may be used with sized warp yarns that take the dye and filling yarns with natural wax that do not take the dye. When bale-dyed, the result is always mottled.

KASHMIR: See Cashmere.

KELAT: Baluchistan furnishes this good, short-fiber carpet wool.

KELT: Sometimes spelled Celt, the fabric is similar to Irish tweed, and is noted for its white warp and black filling construction or, black warp with white filling.

KEMP: A very coarse, brittle fiber often found in poorly bred wools, especially carpet wools. Normally they are short, wavy and tapering toward each end, strongly medullated and of a dead white or opaque color. They absorb dye poorly and consequently appear prominently in finished fabric unless further treated in some manner. At times kemp is mixed with wool for novelty effects.

KEMPY WOOL: Wool which contains considerable amounts of kemp and consequently is of low grade.

KENDAL GREEN: Name given to coarse, woolen cloth originally made by the weavers of Kendal, England. This material is noted for its distinctive green shade and is a favorite color in high quality homespuns.

KERATINE: The combination of elements which form the wool fiber; approximations are: carbon, 50 per cent; oxygen, 22 per cent; nitrogen, 18 per cent; hydrogen, 6 per cent; sulphur, 2 per cent, and traces of calcium, iron and phosphorus.

KERF: British term for the flocks gathered around shearing machines in the dry finishing department of a mill.



Ewes and Lambs in Pasture — I.W.S. Photo

KERRY HILL: A breed of British sheep popular in Wales because of its hardiness, ability to find pasturage and to endure excessive rainfall. The wool, noted for its whiteness, is firm and springy, and about 5 inches long. It is about 50's quality and for classing purposes is grouped with the Down wools.

KERSEY: Originated in Kersey, near Hadleigh, Suffolk County, England. Present day kersey is heavily fulled or milled, and has a rather lustrous nap and a grain face. Luster is caused by the use of luster, cross-bred wools such as Lincoln, Leicester, Cotswold, Romney Marsh, etc. Incidentally, in southern areas of this country there is a low-priced kersey that is a union fabric with much reused or remanufactured wool in it.

Face-finish weaves are used to make the goods so that the ultimate finish will be acceptable to the trade. When compared with beaver, kersey is often fulled more, has a shorter nap, and much higher luster.

Kersey is finished like beaver and the only difference in the two fabrics seems to be the quality of the raw stocks used, the latter ranging in grade from a low, through medium to a rather good grade of three-eighths or half-blood wool.

The material gives good wear and is of the dressy, conventional type of fabric. Blues, browns, and blacks are the colors used the most. Other colors are only seasonal.

KERSEYMERÉ: A fancy woolen fabric; a cassimere. The name would tend to indicate that the cloth was a product of the mills along the waterways of Kersey, England. As there are no meres or lakes in the vicinity of this town it is more probable that the term is simply a variation of "cassimere."

KERSEYNET: On the order of kersey and kerseymere, this cloth is a lightweight men's wear fabric made of cotton warp and woolen filling.

KEVERGIK: Turkish skin wool of the Merino sheep.

KHAKI: From Hindu, meaning dusty. Cloth is made in cotton, wool, worsted and linen and with combinations of these fibers. Cloth first gained prominence when it was taken as the standard color for uniform cloths of the British army in all parts of the Empire. Since then other nations have adopted the color. It is an ideal shade for field service. Fabric has limited use in civilian dress. Some trousering and riding breeches are made with that color.

KHORASSAN: A fine diameter, long staple Persian or Iranian wool which possesses good working properties.

KID MOHAIR: Hair from the young Angora goat, comparable with lamb's wool.

KIDDER CARPET: Originated in Kidderminster, England. This cheap carpeting, made without pile construction, is rugged, rough, and is usually woven one yard in width.

KIDDERMINSTER CARPET: Originated in place of that name in England, where the first carpeting of this name was a coarse, double-faced floor covering made of worsted warp and woolen filling. Later, the carpet was made with triple construction and showed two faces, the figures alternating on both sides and without a pile construction. Other names are: Scotch carpet, Kilmarnock, and, in this country, the carpet is known as "Ingrain."

KILMARNOCK BONNET: The well-known, broad-topped woolen cap worn in Scotland and other countries. Plaid effects predominate in these caps.

KILT: In the original Highland dress, that part of the belted plaid which hung below the waist. In modern Scottish dress, a separate garment, a

sort of skirt reaching from the waist to the knees, commonly made of tartan and deeply pleated.

KINK: A place in a yarn where it has doubled back on itself and twisted in the manner of a ply yarn. Usually caused by extra twist.

KNITTED CLOTH FULLING: The process of treating woolen or worsted knit cloth to give it the appearance of a woven material. Some knitted fabric is difficult to distinguish from woven goods because the fulling, soaping, milling and shrinking have been so effective. These treatments give the goods a compact texture and appearance.

KNITTED FABRIC: A fabric composed of a series of interlocking loops from one or more yarns. In general, such fabrics may be classified as filling (weft) knit or warp knit. In the former the yarns run generally crosswise and in the latter lengthwise.

KNOP, KNOPPED, KNOT YARN: A novelty yarn which shows vivid colored balls or lumps of fiber interspersed throughout the basic fibers in the yarn; a gray yarn might show knobs of red, yellow, and blue to add color and tone to it. Used in men's suiting, sports coating, topcoating, etc.

KRIMMER: 1. A gray fur resembling Astrakhan or Persian lamb, made from the pelts of young lambs in the Crimean Peninsula region.

2. A pile fabric made in imitation of this fur.

KURK: Fine soft wool, yielded by a species of white goat in Persia.



AINE: French for wool, or woolen or worsted cloth.

LAINE DE CARMENIE: Persian goat's hair.

LAINE DE TERNEAUX: French for Merino wool.

LAMB: 1. A young sheep.

2. There are many varieties of lamb, from China, Persia, Russia, Siberia and South America; among these are broadtail, caracul and krimmer.

LAMBA: A multi-colored shawl or throw made from lamb's wool mixed with hair fibers. The term also signifies fabric made from leaves by the natives of Africa.

LAMB WOOL AND SHEEP WOOL, DIFFERENCES IN: Hog or lamb wool is distinguished from wether or sheep wool in the following manner:

1. If the ends of the fibers are pointed, it may be assumed that they have been taken from a lamb; sheep wool fibers have blunt ends.

2. When staple is pulled from the fleece:

- a. If it is wether wool, the staple will come out cleanly without interfering with any of the surrounding fibers that have been pulled out.
- b. Hog wool is dirtier, greasier and oilier when compared with wether stock. Greater difficulty is encountered in pulling out fibers.

LAMBSDOWN: Plated knit cloth whose surface effect shows a heavy, spongy fleece effect made possible by the use of slack-twisted woolen yarn.

LAMBSKIN: 1. A lambskin dressed with the wool on the skin or pelt. Used for garments in severe winter areas.

2. Fabrics which are given finishes to resemble scoured lamb's wool. Fleecy fabrics in this group include molleton, silence cloth, flannel.

3. Lamb pelts taken before the animal is not more than two months old.

4. A satin weave, filling-effect cotton fabric made with compact texture.

5. The white leather apron used as a symbol in Freemasonry.

LAMBS, WINTER: Lambs born in fall or winter; "hot-house lambs."

LAMB'S WOOL: Wool shorn from lambs up to seven months old. Soft and possessing superior spinning properties when compared with wool

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from older animals. Lamb's wool has a natural tip which is lost after the first or virgin clip has been taken from the sheep.

LANOLIN: A complex chemical substance, fatty in nature and chiefly a mixture of cholesterol esters obtained from grease wool. It serves as an emollient for the skin of the sheep and for its fleece.

Purified sheep grease under the name of lanolin or lanoline serves as the basis for grease paints, ointments, salves, skin creams.

LANSDOWN, LANSDOWNE: An old-time fabric made on a three-leaf twill. Silk warp and worsted or cotton filling are used to make the cloth, which appears infrequently on the market.

LAPIN: Sheared rabbit and popular for trimmings on cloth coats.

LAPPING: A "cushion cloth" which serves the rollers of the printing machine. Virgin wool is used for the warp and filling of this cloth, which is about 80 yards long on the frame.

LASTING: A worsted shoe top fabric made with a two or three-ply warp construction with single filling on a five-leaf satin weave.

LEAN WOOL: Harsh, kempy wool which is difficult to spin into yarn; especially deficient in waviness.

LEDA CLOTH: French wool velvet, *Velours de Laine*.

LEDGER BLADE: Set, straight-edge blade on cloth shearing machine.

LEE, JOHN: A Quaker of Manchester, England, who in 1772 invented the first feeder for a carding machine.

LEICESTER WOOLS: In this group are also Lincoln, Cotswold, Romney Marsh, and Cheviot wools, spoken of as Long British and Long Cross-breeds and now raised throughout the world. The rams weigh from 235 to 300 pounds, ewes from 175 to 250 pounds. Fleece weight is from 7 to 16 pounds. The fiber length ranges from 4 to 16 inches, while the fiber diameter is from 1/700 inch to 1/950 inch; there are from 800 to 1,000 serrations per inch in the fibers. Numbered at 40s to 44s.

These hardy luster wools, which have the tendency to reflect light rays, are used in homespun, tweeds, cheviot and shetland fabrics for outerwear.

LEIGH: In 1772, he invented the apron feed for the card. This English invention caused increased production in carding so that it might cope with other machine operations in yarn manufacture.

LINCOLN GREEN: A substantial bright green color originally made in Lincoln, England. The color was supposed to match the green of the forest.

LINCOLN SHEEP: Possessing the longest staple of any wool grown, this popular long-wool breed originated in Lincoln County, England. Probably the world's largest rams are Lincolns; they weigh from 300 to 375 pounds. Rich, well-watered pastures are essential for these sheep, which are much used in cross-breeding. Fleece weighs from 12 to 16 pounds.

Lincoln belongs in the luster wool group along with Leicester, Cotswold, Romney Marsh.

LINCOLN VOLOSH: The result of cross-breeding British Lincoln and Russian Volosh sheep. A 15 pound fleece with staple fiber of about 6½ inches have resulted from the development of this sheep.

LINCOLN WOOL: A popular British wool with world-wide reputation.

LINE FLEECE: One which is between two distinct grades and standard qualities as to characteristics and possible working properties.

LINSEL: French dressgoods made of linen warp and woolen filling; plain or twills are used in construction.

LINSEY: 1. British cloth made of linen warp and worsted filling. It is coarse, durable and strong and gives good wear.

2. Rag sorting term which implies wool fabrics with vegetable matter in them, such as carpets, dressgoods, flannels, other union fabrics.

LINSEY-WOOLSEY: Cloth made of linen and woolen yarn. Cotton may be used instead of linen. Either stock is always the warp. Animal fibers always are the filling. Cloth is of loose structure, coarse, and often highly colored. It originated in England and was much in use in the Colonies at one time. More or less obsolete now, some of the cloth finds use by the rural folk in outlying districts.

LISTED CLOTH: That which has faulty selvage caused by poor tension, breakages, curling selvage, gnarly ends, tears, strains, etc.

LISTING OR SELVAGE: Taken from the words, self-edge. Selvage is the series of ends found on the edges of woven cloth. These ends are part of the warp and run in the vertical direction in the goods.

The primary function of the selvage is to hold out the warp so that the shuttle with the filling does not pull in the warp in width, thereby

causing poor loom action. Another function is to allow the dyer of the cloth a hold on the edges for clips and pins, so that they do not tear the body of the goods. The selvage keeps the edges of the cloth parallel and straight. It is distinguished from body of the cloth in following ways:

1. By the use of a weave that is different from the body of the warp.
2. By the use of colored ends different from those of the warp.
3. By increased twist in the selvage ends.
4. By the doubling up of the ends that constitute the selvage. This is done by placing two ends through each heddle eye instead of the customary single end. This will give the selvage sufficient strength to withstand and offset the friction that the filling might give as it comes off the nose of the bobbin. The doubled ends give a firmer feel and substance to the edges of the cloth.

Listing may or may not be cut from the cloth in the cutting-up house. Cottons often have the listing cut off prior to manipulation of the cloth into a garment. Wooleens, worsteds and rayons retain the selvage, which is placed underneath and covered up in the cut, fit and trim of the garment. It is found along the seams on the under side of the finished garment. Selvedge is another way to spell selvage.

LIVE WOOL: Lofty, springy, resilient wool taken from live sheep.

LLAMA: The members of the llama family include four distinct types and two hybrid types. The distinct types are, llama, alpaca, guanaco or huanaco, and vicuna; the hybrids are, huarizo, the offspring from a llama father and an alpaca mother, and paco-llama or misti, the offspring from an alpaca father and a llama mother.

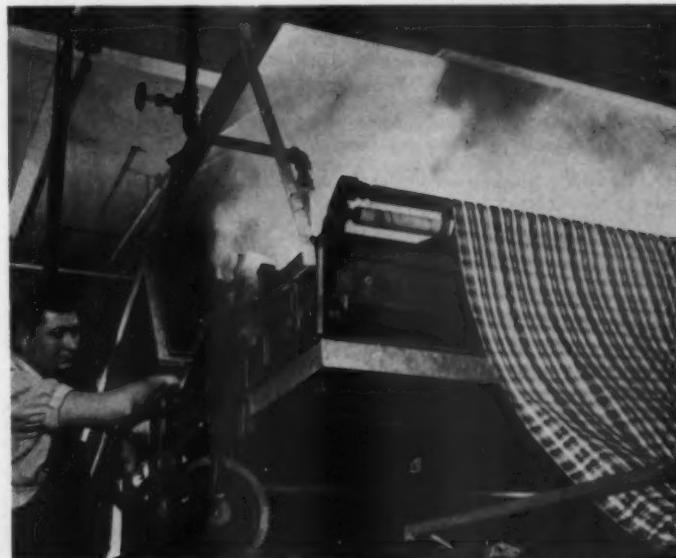
Llama are raised in Bolivia, Peru, southern Ecuador and northwestern Argentina. Lake Titicaca, 125 miles long and 75 miles wide, which forms a part of boundary between Bolivia and Peru, is center of Llamaland.

The animal, which weighs about 250 pounds and is about one-third the size of a camel, has a natural habitat around 12,000 feet; hence, llama are found in the Andes Mountains of the aforementioned countries. The life span of the animal is 10 to 14 years. The animal is not found north of the equator.

Full fleece bearing capacity of the llama is not obtained until the animal is more than four years old. The fleece, obtained every two years, weighs about five pounds; the staple length ranges from 6 to 12 inches.

The outer coat of the animal is thick and coarse; the hair next to the body is very fine and closely resembles the hair of the alpaca. In the preliminary color grading the seven basic colors obtained are white, gray, light brown, dark brown, black, and piebald. Underbelly is usually white.

LOCKS: Odds-and-ends of waste gathered in sorting of sheep fleeces.



The Londonizer which passes cloth over a steam bath for final shrinking in certain kinds of finishes.

LONDON SHRUNK: Hot-and-cold water treatments given to worsted fabrics in order to obtain definite shrinking percentages; all worsteds should be London-shrunk prior to cut-fit-and-trim.

LONG-LIFE CRAVENETTE: A very durable water-repellent finish to resist perspiration, spots, stains, and water. Several dry cleanings or washings may be given before it outlives its usefulness.

LOOK-OVER: English term for one who performs the duties of the percher, inspector and final inspector of cloth.

LOOSE SELVAGES: Listing that works loose because of uneven filling tension and action against the yarns in the material that make up the selvage. The term also includes selvage ends that have become broken and have not been repaired; this may cause other ends to break in a short time. Loose selvages impair the appearance of the finished goods; they may give trouble in manipulation of the fabric into a garment.

LOTS "STAR H. I.": Small lots of wool, three bales or less, which are usually sold at the end of the London Colonial Wool Sales.

LOW-END WOOLENS: Those made of reused, remanufactured and other comparable fibers. Quality and price are rather low.

LOW WOOL: Another name for coarse wool.

LUSTER PILE FABRIC: Any cut pile fabric woven with surface yarns spun from soft types of staple and chemically washed, like hand woven Oriental fabrics, to give a bright sheen.

LUSTER WOOLS: A group of five major wools which originated in Great Britain but now are grown all over the world. There are many sub-types because of cross-breeding. These wools are: Lincoln, from county of that name in England; Leicester, from Leicester County; Romney Marsh, from Kent County; Cotswold, from Gloucester County; Cheviot, from the ranges of Scotland. The wool fibers reflect the rays of light, are rugged, harsh, hardy, and make ideal yarn for homespun, tweed, cheviot and shetland fabrics, coating, sports togs and cap cloth of the English type.



ACFARLANE: An overcoat with cape attached. It is made from any of the several types of heavy woolen fabrics available; very often the garment is made in large plaid effects.

MACINTOSH: An old-time, popular waterproof coating named for Charles MacIntosh, who in 1823 developed the method which still carries his name. He applied a mixture of crude rubber and coal-tar naphtha between two pieces of cloth and joined them by pressure. Warm weather causes this fabric to become soft, soggy and sticky; cold weather makes the cloth hard and stiff.

MACKINAC or MACKINAW CLOTH: An extra heavy cloth used in cold climates. Used as blankets, shirts, mackinaws, reefer cloth, underwear and lumberjackets. An ordinary grade of wool is used and varying amounts of shoddy and wastes find their way to this cloth. Much of the cloth is in plaid design. The material is given a severe treatment in wet finishing and it is napped on both sides, the weave being covered up because of the rigid treatment. Cotton warp is often used. Filling is softly spun yarn so as to insure results wanted in finishing operations. The weight of the material ranges from 14 to 28 ounces or so per yard. Miners, lumbermen, hunters, fishermen, trappers and cow-punchers use much of the fabric. Named for Mackinac Island, Michigan.

MACNAB HARRIS: A hand-loomed tweed made of mill-spun yarn which shows a uniformity of color not possible with homespun yarn.

MACO FOOT: Black wool hosiery made with natural color cotton foot made of Maco cotton.

MADRAS SHEEP: A breed of sheep developed in India by crossing imported sheep with native stock. The breed is now peculiar to the Malay States.

MAKING-UP: 1. The feeding of fiber stock into the back rollers of a preparing box or machine, and also the transferring of the prepared laps or slivers from one machine to another.

2. Finished cloth for market is "made-up" by measuring, rolling, ticketing, wrapping and labeling.

MALEECH KARAKUL: A sheep breed developed from native Russian Maleech sheep crossed with Karakul stock.

MANCHEGA: A Spanish breed of sheep producing a medium wool similar to that of Down sheep.

MANIPULATED CLOTH: While manipulated woolen and worsted cloths are not literally a hand process of preparing and combining as the term implies, they are cloths in which the yarns are part wool and part cotton. The yarn is usually made from homogeneous combinations of fibers in the carding and spinning operations. Cloths that have a small percentage of cotton in them are often spoken of, in the trade, as "commercial all-wool fabrics."

MANTA: A type of multi-colored blanket, about a square yard in size, tied around the shoulders and neck, and worn by women in South America.

This useful article is used for carrying purposes and its constant use gives the peasantry their typically stooped appearance.

MANTEAU: Cloak, cape, wrap, or mantle.

MANTELLETTA: A short robe of silk or wool, without sleeves. Worn by clergy of the Roman Catholic Church.

MANTLE: A sleeveless cloak which may be worn over other garments; made of wool, worsted or silk, it is intended to be folded about the person.

MARANA: A very fine wool dress crepe with outstanding draping qualities.

MARCO POLO SHEEP: A high type species of the genus, this wild sheep, *Ovis poli*, comes from the Pamir Plateau and other Central Asia sheep raising areas. The animal is large in stature and has considerable horn-spread.

MARVELLA or MARVELLO: Women's wear coating cloth of high quality. It is a high luster, pile fabric that weighs from 20 to 30 ounces per yard. Warp is usually worsted and filling mohair and silk although other combinations are used, dependent on the quality of cloth wanted. The material is made in the finishing; piece dyed cloth.

MASHAM: A British half-bred sheep obtained by crossing Wensleydale rams and Greyface ewes. It is an ideal mutton sheep and produces an open wool of about 46s quality, 5 to 6 inches long, and having good handling properties.

MATCHING: Made by sorting fleeces and putting together those portions of different fleeces which correspond in quality.

MAUD: A double cloth fabric made of coarse 2-ply cotton warp and heavy wool filling with more picks per inch than ends. Both face and back weaves are filling face, giving a wool surface on both sides. Gray and black fillings are usual and the design is made by interchanging the two. Used for shawls, steamer blankets, throws, etc.

MAZAMET: Name given to a type of French melton. It is the name of the city in France where the largest wool pullery in the world is located.

MEDIUM WOOLS: 1. Those wools which average in length between long and short wools. Short wool ranges from 1 to 6 inches; long wool is from 6 to 12 or more inches in staple length.

2. Sometimes refers to the general quality of wool and includes wool that is high quarter-blood, three-eighths-blood, and low half-blood wool. Medium wools grade between 50s and 58s in quality.

MEDULLA: The central portion of an organ or tissue; e. g., the central part of a wool fiber.

MEHERJUN: The coarse Persian wool suitable for carpet yarn.

MELANGE: From French meaning "mixed." Hence a cloth that shows a mixture effect. Also used to imply printed slubbings or top of worsted stock, and the name is given to the cloth produced therefrom.

MELROSE: Double twill cloth of silk and wool, named for Melrose on the Tweed River in Scotland.

MELTON: There are four cloths in the group — beaver, kersey, melton and broadcloth. Melton is a heavily felted, hard, plain, face finished cloth. It is used for riding, box-driving, hunting cloth and in overcoatings. One of the most serviceable cloths for outerwear. In garment making, Melton in lighter construction is used as "under collar cloth." The name of the cloth is said to be that of the originator of the material, but very likely the name comes from the famous Melton Mowbray fox-hunting area of Leicestershire, England. In the group of cloths Melton is fulled the most, has the shortest nap. It is not a laid nap and cloth is dull in appearance and non-lustrous. Double shearing is given in finishing so as to give the cropped appearance that is one of the distinguishing marks of the fabric. There are many grades of Melton, dependent on the type of trade for which it is intended.

MELTONETTE: Women's wear cloth of very light weight Melton.

MENDING: 1. To remedy or fix damaged, defaced or torn fabric.

2. Woolens and worsteds, following perching, are burled, specked, mended and given final sewing treatment before they are sent to the wet finishing operations in the mill. The necessity of mending may be caused by the following blemishes or flaws in fabrics: ends out, mispicks, harness skips, small holes, shuttle smashes, loose warp ends or filling picks, etc.

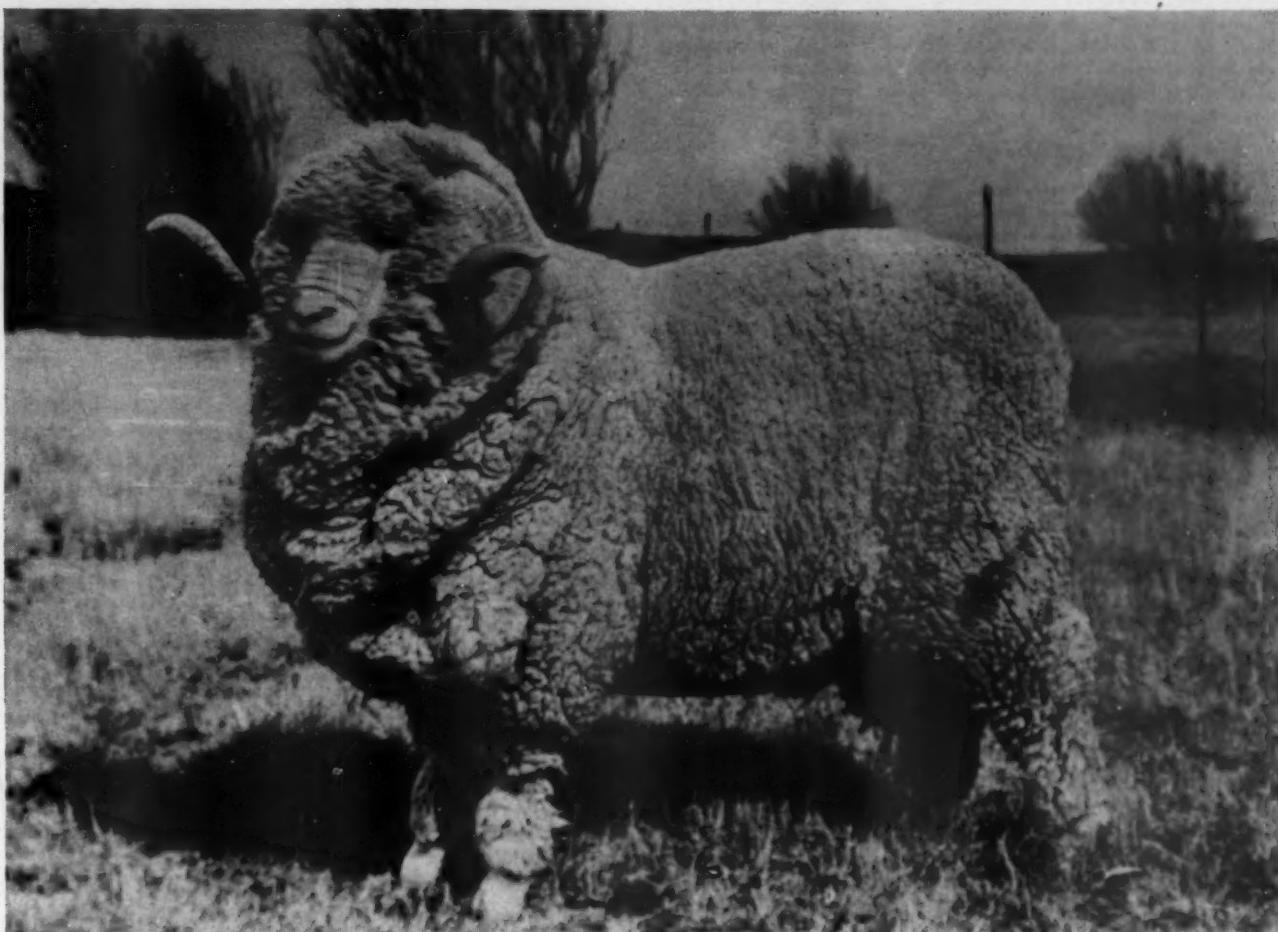
MERCERIZED WOOL: Wool is treated for a brief period at a low temperature in an 80-degree Twaddle solution of caustic soda. The effect is a high luster to the wool at the expense of possible felting treatment.

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MERINO: (The Spanish word "merino" signified roving from pasture to pasture, said of sheep; probably from the Latin, "major," greater.) The very fine quality of wool of the so-called Merino sheep of Spanish origin. Hence a cloth of such material. The term "Merino" is now applied also to knitted woolen fabrics, notably undergarments constructed of yarns with an admixture of cotton to prevent shrinkage in laundering.

MERINO VOLOSH: Hybrid sheep breed of the Soviet Union, produced by crossing imported Merino rams with Volosh ewes; the quality of the wool has increased constantly because of fine-wool rams used in the breeding.

MERINO WOOL: The best grades of this wool in the world come from Botany Bay and Port Philip areas of Australia. This Merino stock is used



MERINO SHEEP . . . *the world's finest wools*

MERINO SHEEP: They produce the highest, finest, and best wool in the world, the aristocrat of sheep and wool. There has been much conjecture and discussion about the origin of Merino sheep. It is likely that they originated in what is now Italy and Spain. Some claim that, as a class, Merino did not exist until the 15th century. Others place this time in the early days of the Renaissance in the 12th and 13th centuries.

The Saracens, who fought the Spaniards for seven centuries, and were finally overthrown and driven from Europe at the conquest of Granada in 1492, were great breeders of sheep. They did much in cross-breeding to improve their flocks. They, no doubt, introduced this type of sheep into Europe and it may have been before the 12th century. The intellectual and clever Saracens developed their flocks to the utmost; their fleeces excelled all others. Flocks of sheep raised by them compared very well with the best Merino flocks of Italy and Spain.

The staple ranges from 1 to 5 inches and all working properties are of the best. Wools classed as Merino are: Ohio Merino, Saxony Merino of Germany, Silesia of Austria, Rambouillet of France, Port Philip and Botany Bay of Australia, South American Merino, South African Merino, New Zealand and Tasmanian Merino, and the small flocks of Merino found in Italy, Sweden, Denmark, Hanover and Prussia.

The diameter of the Merino fiber is from 1/1,500 to 1/1,750 inches and fiber length is from 1 to 5 inches. Serrations range from 2,400 to 3,000 per inch. The ram weight is between 150 and 235 pounds; ewes weigh from 105 pounds to 155 pounds.

The grease fleece obtained from Merino sheep weighs from 17 pounds to 22 pounds. Yolk and suint are heavy in the fleeces, so that the yield is lowest when compared with all other classified wools. After scouring, approximately one-third of the original weight is wool fiber.

for worsted cloths of the better grade. Merino wool is listed as a Class One Wool, and 85 per cent of all Australian wool is Merino. Other world centers for the fleeces are Ohio, Silesia in Austria, Saxony in Germany, France, Argentina, Spain and the Union of South Africa.

Merino wools have the best working properties and have been spun, for commercial purposes, to 80s worsted counts.

MERRIN WOOL: Wool removed from dead sheep, especially from partly decomposed range animals. Has a yellowish tint very difficult to remove.

MESTIZA, METIS, METZ: General term to signify South American Merino sheep wool. The term means mixed and can be applied to cross-bred wool, which results from breeding pure Merino sheep with native Creola or Criolla sheep of South America.

MESTIZA BURRS: Burrs, thistles, etc., found in wool fleeces, chiefly those from South America.

MILL ENDS: Mill remnants or short lengths of fabrics.

MILL WASTES: A very broad term to include any and all wastes from the machines used to card fibers, spin yarn and weave cloth. Includes:

1. **Sweeping Waste:** Lint and sweepings from any of the rooms in the textile plant. These short, fluffy fibers are used for flockings in finishing woolen coatings of low and medium grade.

2. **Burr Waste:** Waste stock from which burrs, seeds, etc., have been removed by carbonization. It varies in accordance with the stocks from which these wastes were obtained. This waste comes only from wool, and to some degree, from the other animal fibers.

3. **Lap Waste:** Fibers that vary in length and are obtained in any

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of the combing, drawing or spinning operations. Much of this stock is returned to the initial machines for reworking into lower quality and shorter staple blends and mixes.

4. CARD WASTE: Short, immature, dead or fluffy fibers picked up in any carding operation. Card waste is used for blending purposes in low-grade woolens, flocks in overcoating, flocking in wall paper, candle wicks and all kinds of low-grade yarn.

5. YARN OR THREAD WASTE: It is obtained from the jack spools, dressing frame, warp beam, filling bobbins, woven-out warps, etc. If the waste is made of animal fiber it is necessary to garnet the stock since there would be considerable twist in the yarn; mixture yarns must be carbonized to salvage the animal fibers if the stock is to be manipulated into lower quality fabric.

MILLING: See Fulling.

MILL WRINKLE: Creases which have been caused by passing cloth while twisted through rollers after washing, scouring, etc. They are very difficult to remove and are the bane of finishers in the mill.

MILLED: Synonym for fulled or felted woven fabrics.

MINERAL WOOL: A fibrous wool-like material made by blowing a powerful jet of air or steam through melted slag. Used as an insulating and packing material.

MISPICK, MIS-PICK: An imperfection in the filling direction of woven cloth caused by broken filling, bobbin running out of filling in the shed, yarn catching, snapping or gnarling. Mispicks must be fixed in the finishing department of the mill.

MISTI: Term from the Quichua language, the aboriginal Peruvian tongue, which implies the foal of an alpaca sire and llama dam.

MISTRAL: Worsted dressgoods fabric which has a nub effect caused by the mixture of stock colors and the twist given to the yarn prior to weaving of the cloth.

MIXED FILLING: When a bobbin of the wrong size or color has been woven into the material by mistake. This error may be laid to sheer carelessness or oversight by the weavers. Picking-out of the spoiled area causes the weaver to lose much time and production.

MIXING PICKER: Any of various machines used in the preparatory processes in woolen manufacture. Their function is principally to mix the stock, open it still further and deliver it in the most suitable condition to the card. Different types are called teaser, farnought, willow, etc.

MODOC, MODOCK WOOL: 1. Pulled wool from the sandy, short, fine-territory skins.

2. Reclaimed wool fiber from hard-woven and pulled fabrics.



As the wool is dropped into the box of scales, the amounts of the various grades are indicated by markers — I.W.S. Photo.

MOHAIR: The Angora goat, which furnishes mohair, is one of the oldest animals known to man. Mohair is $2\frac{1}{2}$ times as strong as wool and will outwear it. The goats are raised in South Africa, Western Asia, Turkey and neighboring countries, and in Texas, California and Oregon. Kerrville is the great center of the mohair industry in Texas.

Foreign mohair, 9 to 12 inches in staple length, is allowed a full year's growth prior to shearing; domestic fleeces are obtained bi-annually in California and Texas, annually in Oregon. The hair of the animals found in Texas and California will fall out if allowed a full year's growth. Texas fleeces weigh about $2\frac{1}{2}$ pounds; Oregon fleeces about four pounds.

Angora goat fleeces show fibers which average about 9 inches. The fibers, which are very strong, high in luster, whitish in shade, fairly soft in handle, and straight in staple appearance, possess good uniformity. The diameter is about $1/700$ inch. The length and luster of mohair fiber is more desirable than staple fineness. Mohair is used for braid, fancy dress materials, felt hats, linings and plusses.

MOHAIR CLOTH: Cloth made from the hair of the Angora goat. Used for lining, is lustrous, made in plain and twill weaves, dyed in natural shade or in other colors. Mohair cloth is made with the straight fiber, or of adulterated stock. Wide range of cloth is in this type of material.

MOHAIR LUSTERS: Broad term to cover lining fabrics made of cotton warp and mohair filling; usually dyed black or gray. Some of the fabric may be used for low-priced dressgoods.

MOHAIR RUG: A rug made of mohair warp and cotton filling and backing. A warp pile made of cotton accompanies this lustrous rug.

MOITING: The removing of small particles of foreign matter from wool fleeces during sorting.

MOITS, MOTES: Refers to all foreign matter found in wool, such as burrs, hay, leaves, seeds, thorns, twigs, etc.

MONFLOW, MOUFLON WOOL: Wild sheep from the Mediterranean area — Corsica, Greece, Crete, Sicily, etc.

MONTAGNAC: The registered trade mark of E. de Montagnac et Fils, Sedan, France. The fabric is classed as a soft material and the warp is entirely hidden by the filling. Montagnac is heavily fulled and given great care in further finishing in order to produce the characteristic hand-beaten tufts for the curled effect on the surface of the material.

The material has a fabric weight of thirty-six ounces per yard. Twill weaves are used in the cloth construction. Montagnac is made with wool and cashmere stock. The cashmere adds much to the appearance, feel and beauty of the fabric. This silken-like feel is one of the main assets of the cloth, which is made into smart, dressy overcoating.

[This listing corrects definition given in Issue No. 3 of American Fabrics.]

MOQUETTE CARPET: A carpet of American origin despite its French name. In French, moquette means "tufts of wool." The old imported Axminster has long been beyond the reach of the average housewife's purse; consequently, Moquette was introduced in 1875 to simulate Axminster, so that it would compete with the latter and at a lower price. Moquette immediately sprang into popularity here, although it has failed to have much influence in Continental markets.

At present the name Axminster is used to designate a carpeting which is more or less synonymous with Moquette, differing chiefly in the number of tufts of wool to the inch or in the manner of fastening the tufts more or less firmly in the fabric.

MOREEN: A plain woven worsted dressgoods fabric on the order of poplin; the face of the goods receive a moire treatment to give the water-marked effect.

MORESQUE: Is two shades of the same color (usually one light and one dark) twisted together to give an unusual texture effect.

MORTLING: Name in England for wool taken from dead sheep.

MOSCOW: Overcoating of the shaggy, napped type, heavy in weight. Cloth gives warmth and somewhat resembles heavy Shetland cloth. Name is given because of the fact that the cloth is in favor in Soviet Russia as well as in other cold sections of the world, where it is used for winter wear. There are many types and grades of the cloth, ranging from very cheap quality to high, expensive materials.

MOSS or MOSSING FINISH: English term for woolen cloths which have been napped or gigged in finishing; the weave construction, however, can be observed in the finished goods.

MOSS YARN: Coarse woolen yarn with a fuzzy surface used in embroidery.

MOTHPROOFING: Treating woolen goods so as to render them less susceptible to attacks by clothes moths. Done by use of a repellent.

MOUFLON: A wild sheep (*Ovis Musimon*) inhabiting the mountains of Sardinia and Corsica. It has large horns curved into a semi-circle. Thought to have played a considerable part in the development of the modern domestic sheep. Name sometimes extended with certain qualifications, to other wild sheep with similar horns.

MOUNTAIN SHEEP: 1. Wild sheep in various mountain areas throughout the world.

2. The Bighorn or Rocky Mountain wild sheep in this country.

3. The active, small, rugged sheep raised in the hills and mountain areas in the British Isles. Kerry, Lunk and Scotch Blackface may be included in this group.

MOURAT WOOL: Fine, brownish colored wool from the Shetland and neighboring islands.

MOUSSELIN DE LAINE: "Wool muslin" in French. This dressgoods cloth is made of plain weave, light in weight, and made of worsted. Cloth is often printed, and qualities vary according to composition, which is often stock other than straight worsted warp and filling.

MOUTON: A short to medium length fur with a dense pile, the trade name for processed, sheared sheep. Usually dyed beaver color, or darker brown, beige, gray and, occasionally, red, green and blue. Wearing qualities, good. Judged by density of pile, softness and pliability of pelt. Found in Australia, Argentina, South Africa, and parts of America. For sports, business and school wear.

MULE: A type of spinning frame which has an intermittent action. It draws out and twists a length of yarn then winds it in the form of a cop, repeating the cycle several times each minute. Used to a considerable extent for spinning wool but only to a limited extent, in this country, for cotton and then for fine counts or waste yarns.

MULE CARRIAGE: The front, movable section of the mule spinning frame which moves to and from the head stock of the machine. The carriage supports the spindles, faller wires, spindle drums, friction bands and other appliances.

MULE FRAME: The stationary part of the mule spinning machine, which contains the drawing mechanism, the roving jack spools or rollers set on supports which aid to feed the roving of the feeding-in rollers of the machine.

MULE FRAME COPPING ACTION: The parts on the mule spinning frame that control the copping or bobbin action—copping rail, plates, shaper wheel, shaper catch, worm, and the trail lever which connects the locking lever to the copping rail. The latter on the mule is connected to the faller wires to determine the build or chase of the cop as the spun yarn winds onto it.

MULE FRAME WINDING: Winding and spinning are intermittent actions and after each length or stretch of yarn has received its proper amount of twist, the spindle rotates to wind the newly-spun yarn onto the cop or bobbin. The winding motion swings into action to wind the yarn onto the bobbins in an even and uniform manner on the inward run of the mule carriage.

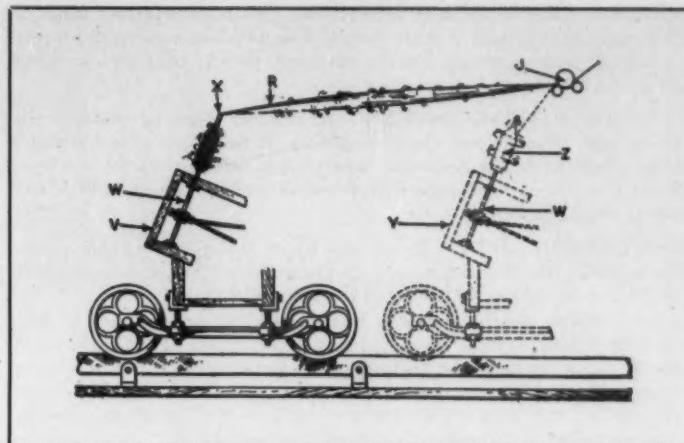
MULE SPINNER: A type of spinning frame sometimes used for spinning high quality yarn. The cheaper production costs of the ring spinning frame have curtailed mule spinning to considerable degree here.

MULE SPINNING, DIFFERENCES IN WOOL, WORSTED AND COTTON: In the mule spinning of cotton and worsted there is a continuous feeding-in of the roving to the machine on the outward run of the carriage. However, in spinning woolen yarn there is a different way resorted to in order to feed the stock to the frame, because of the very nature of the fibers that go to make up wool yarn.

On the woolen mule, for example, say 24 inches of roving are fed into the frame while the carriage is going out from the head stock an equal number of inches. When the desired number of inches have been fed in, the machine stops for a few seconds; gears shift, some come into play, others go out of play, while some continue to do their work.

Then, as the carriage continues to go out on its run, the original 24 inches are drawn out, say, an additional 48 inches. This will give a total drawing of 72 inches. Thus, a draft of three has been applied to the fibers.

The reason for this arrangement is that the fibers which make up woolen yarn are more or less of a conglomerate mass, irregular, uneven, not as uniform as worsted or cotton stock, and may vary from 1 to 12 or more inches in length. There may also be other fibers of a mix or waste nature being manipulated with the woolen fibers. These must be taken into account when actual spinning is to be done.



MULE SPINNING IN DETAIL (See illustration above):

In mule spinning the carriage (V) on which the spindles are mounted, moves to and from the main spinning frame that holds the feed rollers (J). On its outward trip with the spindles idle, it draws out the roving (R). At the end of this motion the feed rollers (J) stop; the spindles (W) revolve, allowing the roving (R) to slip over the spindle top (X), thus twisting it into yarn.

On the inward trip (indicated by (Y) dotted lines), the yarn is wound onto the bobbin (Z) by the continued revolving of the spindle (W).

MULE QUADRANT: This important part of the mule spinning frame takes its name from the fact that this gear is made with a 90-degree angle, one-quarter of a circle, which has 360 degrees in it. The circular frame of the quadrant is toothed. These teeth mesh with the strong, deep teeth of the star wheel, as the quadrant goes up or down when the mule is in action, on the inward or outward run. The meshing of these teeth do much to cause the even working and regular motion of the mule carriage. No jerky, irregular motion is possible, and the carriage action will be smooth, even and uniform.

MUNGO: Wool fibers obtained from felted rags which have been passed through the garnetting machine. Fiber length is $\frac{1}{4}$ to about $\frac{3}{4}$ inches long. Shoddy is secured from unfelted rags.

MUSKRAT: An aquatic rodent of North America which has never been domesticated, this animal is valued for its thick blue gray brownish fur which resembles that of the beaver. The fur fibers are extremely fine and have an average micron count of 11.7. Used chiefly by the fur industry, muskrat furs provide the very fine fibers for various textile blends emphasizing a deep softness in the ultimate fabric. The price of the fiber is approximately three dollars per pound. The wholesale price of skins is two dollars per skin. For the textile industry the Muskrat pieces are collected and dissolved in such a way that the leather is destroyed, and the fur released is almost unaffected by the chemical process necessary to destroy the skin.

mysore sheep: Indian sheep which have a staple fiber 3 to 4 inches long. The wool varies from light gray to black in color. Fleeces weigh only 4 pounds. Most of the wool is used for local consumption.



AGO NODZI: Hand-woven Navajo Indian blankets with black and white filling stripes interspersed with small red areas to brighten the cloth.

NAP: The fuzzy or protruding fibers noted on the surface of a finished material. Nap covers up to a great degree the interlacings between the warp and the filling threads. It gives added warmth to the wearer. The length of the nap will vary somewhat in the several cloths given this type of finish. Nap is applied to flannel of all kinds, cricket cloth, blanketeting, baby clothes, silence cloth, molleton, some lining fabrics, overcoatings, knitted fabrics, etc.

NAPHTHALATING: A process by which virgin wool is gently cleansed in three baths of naphtha and then rinsed in clean flowing water. No soap or alkaline solutions are used; raking, forked and excessive handling are eliminated. The wool retains its original life, strength and resiliency.

The first bath removes large amounts of the grease; most of the remaining grease is removed by the second bath. The third bath removes all of the remaining grease but leaves the natural potash for further cleansing of the wool, which follows in a clear rinsing bath. Naphthalating is a patented process for scouring wools with organic solvents owned by Arlington Worsted Mills, Lawrence, Mass., and has become a great help to the industry.

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NAPHTHOL PREPARE-CANS MACHINE: This machine treats material with a chemical to make it more receptive to printing colors; it consists of a mangle with a trough for the chemical, drying cans and a swing folding attachment.

NAPHTHOL SOAPING MACHINE: A machine used to dissolve the printing base from printed cloth, consisting of two wooden tanks which contain, respectively, heated water and caustic solution. Cloth is drawn through a series of idler rollers by powered rubber squeeze rollers and passes through the liquids.

NAPPED-FINISH GOODS: These may be of a single or double finish, slight or heavy. Single finish occurs when one side of the goods is napped; double finish fabric has both sides of the material napped.

A slight finish occurs when the napped cloth is not as high in protruding fibers nor as thick when compared with heavy nap. The finish is given to fabrics known for their napped characteristics and for those that can withstand the rigors of the treatment. Certain woolen and cotton cloths receive this type of treatment — baby clothes, blankets, domett, flannel, lining, molleton, silence cloth, etc.

The finish is applied by rollers covered with 1-inch card clothing similar to that used on the fancy roller of the woolen card, or by a roller clothed with teasels.

Some fabrics are given from three to four up to ten or twelve roller treatments to obtain the desired napped effect for the surface finish. The napping may be done in the gray goods state as well as in the regular finishing operations. Many woolen fabrics may be given this treatment — beaver, broadcloth, chinchilla, fleece, kersey, melton, Montagnac, Saxony, zibeline, etc.

NAPPED AND PILE CLOTHS, DIFFERENCE BETWEEN: In a napped cloth the fibers are raised by teasels or a card clothing roller.

In a pile fabric extra threads are used in the weave. These threads, when they are cut in the loom by means of knife blade action, show a nap or raised surface of projecting ends on the face. The pile ends are held in place by a basic weave that forms the body of the material. The pile ends may readily be pulled out with the fingers. Uncut pile fabrics are made by the ends going over the blade and remaining in this uncut looped form in the material. Since there is no sharp blade at the end of the pile wire, the ends that form the pile effect will not be cut.

In napping cloth it is not out of the ordinary to run it several times through the napper machine. Napping is often done in the grey goods state. Too vigorous a treatment will injure and fray the material. Some cloths are napped only once, depending on the type of nap desired.

NAPPER FLOCK: Waste removed from cloth in the napping process.

NAPPER SET: Six cut-lengths of cloth of the same weave sewn together end to end for treatment by the napping machine.

NAPPING: Cloth, by the time it is ready for napping, is unattractive and irregular in appearance. The surface is uneven and shaggy because of protruding fibers.

Nap on the face of cloth may be raised for several reasons: to make the cloth give more warmth to the wearer, to give it more body and make the material more compact, to make the fabric softer or smoother in feel, for durability, to help cover up the spaces between the interlacings of the yarns, and to add to the selling points of the garment.

Minor defects and blemishes are covered up by napping. It is an easy matter to bring coarse, inferior cloth to the point where it will be appealing to the eye of the prospective purchaser. It may also have the tendency to make the layman believe that the cloth is better than it really is. Looks and appearance are influenced in material selection, and the wearing quality is often overlooked. Napping will sometimes "make" a fabric.

Napping, gigging or raising is accomplished by passing the cloth, in a tightly stretched condition, over a revolving cylinder or roller, inlaid with teasels. The roller may be clothed with card clothing instead of the teasels. If wire is used, the length of it is from seven-eighths to one and one-eighth inches, set in leather fillet.

NARROW CARPET: Fabric woven 27 inches (3/4) and 36 inches (4/4) in width to distinguish from broadloom widths used in carpeting.

NARROW GOODS: Cloth 27 inches, or less, in width. Nine inches equal "one-quarter," hence cloth classed as narrow is known as three-quarter.

Narrow fabrics also include webbings and ribbons woven on narrow looms where it is possible to make from 96 to 144 pieces of fabric at the one time.

Woolen goods less than 52 inches wide finished.

NARROW WALE: Narrow diagonal lines seen in some woolens and worsteds.

NARROW WIDTH: Cloth of incorrect width. Very often the cause of this defect is a too rigid treatment in fabric finishing. Narrow width may be traced to a great many causes. Tentering of the cloth will often bring the cloth back to its original contract width.

NATIVE WOOLS: Those raised east of the Mississippi-Missouri Rivers. Also implies unimproved wool from sheep raised in various world centers where modern animal husbandry has not penetrated.

NATURAL: 1. Flesh color.

2. Yarn spun from a mixture of naturally colored wool — black, brown, gray, etc.

NATURAL GRAY YARN: Yarn spun from a blend of black, brown, or gray wools, unbleached and undyed.

NATURAL WOOL: Broad term applied to undyed or unbleached wool which is often imitated by adding dark colored fibers to the white wool so as to prevent the material from showing soiled effects too quickly.

NEAT WOOL: The sides of the average luster sheep furnish this combing wool stock, which is used for 32s to 36s worsted yarn.

NEGRETTI SHEEP: Sheep, native to Spain, which are now raised in several world centers. The wool is fine, soft, and has the best of working properties. Negretti are extensively raised in Germany and form the basis for much of the best grade materials made there. South American wool countries now specialize in raising the sheep.

NEPS: 1. Wool fibers curled into little balls or lumps and found mainly on the carding machine; caused usually by faulty setting of the rollers.

2. Clusters of rolled-up, mixed, or tangled cotton fibers that are of pinhead size.

NEW, NEW CLIPS: Cuttings, clippings and other odds-and-ends of woolen and worsted fabrics collected in the cut-fit-and-trim garment factory. These clips, and those from other sources, are sent to garnetting machines in plants which reclaim the fibers from the fabrics so that they may be used in future cloth manufacture.

NIPPERS: On the Heilmann comb there are two sets of jaws which alternately grip and release the fibers being combed. There are two parts to the mechanism which hold the stock in place; the upper part is the nipper knife while the lower part is the nipper plate or the cushion plate.

NOBLE COMBER: Also known as the circular comb, it is used on the English or Bradford system in making worsted yarn. Made of three circles that are filled with sharp, upright pins; the large circle is about 44 inches in diameter, the two smaller ones, from 18 to 20 inches in diameter. The two small circles revolve, inside of the large circle, on the principle of a differential.

Feeding of stock to the comber is done by passing the sliver through a series of drums set in the frame. These are 18 drums, each of which has four compartments or spaces to care for four individual slivers from the top to the balling head. Thus, 72 ends may be manipulated by the comber at the one time.

As the circles draw away from each other, there is a fringe of stock ready to be combed. This fringe is treated by the large circle which takes out the long, choice fibers of the same length. The two inner circles gather up the noil or fibers under the required or set length. The top is passed out of the machine, while the noil goes through a funnel or trumpet into a can or receptacle that is placed at the side of the frame. Combing may be compared to the combing of the hair on the head of the human being. The more rigid the combing, the greater is the foreign matter removed; the greater the number of teeth in the circles, the finer will be the results, the better will be the combing.

The top fibers are processed into worsted yarn by the ensuing machines.

NOIL: 1. The short fibers taken from any machine operation in the processing of textile fibers. They are obtained mostly in carding and combing operations. The stock may be high in quality but very short in length, too short to admit its being manipulated into yarn by itself. Noil is worked in with longer staple fibers to make yarn. Some noil may be of medium or inferior quality.

2. Short fibers that may be mixed in with longer staple woolen or worsted fibers in yarn manufacture; obtained from various frames.

3. Woolen or worsted fibers taken from the carding and combing operations which find extensive use in blends and fulled woolen goods.

4. Stock that has been over-carded or garnetted to produce tiny balls, pills, or slubs which are introduced into normal stock to produce uneven drawing which will give nubby or tweedy yarn. The yarn is popular for certain types of suiting and dressgoods in men's wear and women's wear.

5. Silk noil is a by-product of the spun silk industry. It consists of the short fibers which are combed out of the silk waste and are not suitable

Steps in Processing and Manufacturing of Wool and Worsted Cloth



Ascertaining the density of the fleece.

PERCH — Looking for possible defects in cloth.



Carding machine operator pulls wool rovings from jackspool to get a skein for weighing.



Abrasion machine shown after a wear test of 14,112 cycles on a piece of dress goods.

Two strands of yarn, the one on the left conditioned by steam, the one on the right unconditioned.



Valuing the wool in the wool store.



for clean, even yarns. Silk noil, nevertheless, is spun into Noil yarns, which are very uneven and lumpy; it is also used in blends for novelty effects.

NORFOLK SHEEP: Formerly an important British breed of sheep; it was used to develop the present-day Suffolk breed.

NORFOLK SUITING: Named for that county in England. This type of belted and pleated suiting has waves of popularity, mostly in boy's clothing and in summer clothes and golf toggery.

NORMAL MIXTURE: In knitting parlance it implies a yarn made of cotton and wool in a black and white combination to give some varying shade of gray. The amount of black used determines the depth of the gray shade.

NORTHERN MAR-MOUCHE: Native to Morocco, a type of sheep known for its coarse, straight fleece of about three pounds. The white but uneven fleece shows a staple of about ten-inches which seems to practically cover the animal in entirety. Some fibers will touch the ground.

NO-TAIL SHEEP: Originating with six fat-rumped sheep brought from Siberia to this country in 1913, this breed was developed by crossing the sheep with Cheviot, Hampshire, Shropshire, and later on with Rambouillet and Southdown. The tails were not eliminated in the first crossing, but in the second crossing it was necessary to dock only a small percentage. Fleeces run from about 7.5 to 9.5 pounds; the wool sorts chiefly to $\frac{1}{2}$ blood and $\frac{3}{8}$ blood.

NOUKA: Georgian wool of good quality.

NUB: 1. Small specks, neps, lumps, knots, etc.

2. A small mass or ball of fibers usually made on the card and, at first, considered as waste. They are now dyed brilliant colors and are interspersed in yarn to give it brightness. Some novelty yarns of this type are Knickerbocker, bug, slab, etc.

NUMDAH RUG: A rug imported from India that is made of wool, felted instead of being woven. This washable, practical bedroom rug is embroidered with wool threads to add to the effect.

NUN'S VEILING: Used as religious garb with some call in the dressgoods trade. Cloth is all worsted, all silk, worsted and silk, etc. The fine, sheer types made are dyed black or brown in the piece, but other colors are given when there is a call for the material in the dressgoods trade. Fabric shines with wear. This cloth, when used by laymen, is made into dresses, cloaks, kimons and babies' coatings.

NUTRIA: A native of South America, this aquatic rodent has a beautiful silky fine belly undergrowth which is unlike other similar animals because the Nutria dwells in streams that are colder than the atmosphere. Remaining in shallow portions, its back is exposed to the air and does not require the fur protection demanded by the stomach. The bellies after the guard hairs are removed are used by furriers. The textile industry also uses Nutria fur fibers in blends emphasizing softness. Nutria sells at around five dollars per pound for the textile industry.



FF-SHADE: Color in fabric that matches only in spots or places and is irregular throughout the piece. A peculiar or poor cast will result from off-shades in goods. This effect is noted and sought for in cloth from side-to-side, side-to-center and from end-to-end.

OFF-SIDE: Where the shuttles in a loom enter shuttle boxes eye-first, at the one side of the loom.

OFF-SORTS: Products obtained in wool sorting, from fine to coarse stock. They are certain quantities of short, kempy, frowsy, dungy, be-colored locks of wool and are not of the regular sort in grading.

OILING: Spraying of oil on the various layers of stock in wool manufacturing to insure evenness and smoothness in running the wool through the various operations. It is done usually by means of an automatic sprinkler machine.

The principle involved is the same as that used by a watering can to water a garden, or that of a street sprinkler. The various emulsions used are made from palm, lard, oleic, olive and other oils.

OIL STAINS: Stains and marks detrimental to goods. They are acquired in a great number of ways and must be removed in cloth scouring. Many oil spots are the result of carelessness as the cloth is moved from room to room in the cloth finishing procedure.

OILSTREAKS: Black or stained areas running in the warp or the filling direction. They may be caused by careless oiling of roll stands and saddles in carding or spinning room, or careless oiling in almost any department; dropping of bobbins on floor during handling, oil dropping into the

warp from overhead shafting, unclean hands on the part of the operatives, etc. Utmost care in oiling and clean handling of bobbins, yarn, and goods is essential.

OLIVE DRAB: The greenish-yellow or khaki shade used by the U. S. Army. Olive drab has low saturation and brilliance.

OLIVE DRAB FLANNEL: Flannel of this shade made to exact specifications by the United States Government for uniform material.

OLIVE OIL: Like other oils used in the woolen and worsted industry, it serves as a lubricant, in making sulphonated oil, and is used in between the blending and mixing operations in preparation of the fibers for carding.

OMBRE: Shaded effects in finished cloth produced by using dyed yarn in weaving the material. Colors range from light to dark shades of some particular color; the cloth is popular, at times, in dressgoods and suiting.

ONDE: French dressgoods of cotton warp and bright colored, wool filling. This cloth is supposed to have originated in Orleans, France. Fabric is cross-dyed, the warp and filling therefore showing different colors in the finished garment.

OPEN DRAWING: The first method used in drawing worsted top and based on the principle of flyer spinning. Used on crossbred or luster wools, coarse, long mohair, etc., the top or sliver is flat and level. One of the features of open drawing is that when a flyer is used for twisting and winding, the bobbin on the spindle is loose and rather free so that it may be carried around easily by the slubbing.

OPEN WOOL: The opposite of dense wool; sheep which raise this type often show a sparse or open area down the spine. Merino fleeces are an example of dense wool; many long wools and crossbreds typify open wool.

OPORTO: Coarse Portuguese wool; used for carpets.

OPOSSUM: The only marsupial outside of Australia, this beast thrives in Australia, the southern U. S. and is found as far south as Argentina. It is about cat size, has a white face and fur that is loose, grayish and white tipped. The pelting is used chiefly as trimming for cloth coats. In textile fabrics, the hair is separated from the undergrowth and only the latter used. The price of the fur for textile blends varies from two to ten dollars per pound. Australia and New Zealand are by far the biggest producers of Opossum.

ORDINARY WOOL: Territory or carding wool raised in this country in contradistinction to wool described as staple wool.

ORIENTAL REPRODUCTIONS: Machine-made rugs made in this country to simulate Oriental designs and given luster finish to enhance the surface effect. Often referred to as American Orientals, the name is actually a misnomer.

ORIENTAL RUG KNOTS: The fineness of an oriental rug is determined by the number of knots used per inch. Two types of knots are used; Turkish or Ghiordes and Persian or Senna.

ORLEANS: Dressgoods of cotton warp and bright colored, wool filling. This cloth is supposed to have originated in Orleans, France. Cloth is cross-dyed, the warp and filling therefore showing different colors in the finished garment.

OSSAN: The stockings worn by the Scottish Highlanders; made of high grade, well scoured wool yarn.

OUTING CLOTH: Cloth used for tennis, cricket, light field sports and general outdoor recreations. The material is made of plain weave, has wide range of plain colors or may be striped in pattern. The name is also applied, at times, to fancy flannels, white and cream-colored serges and straight flannel cloth.

OUTRIGHT SALE: When the wool grower sells shorn wool to the wool manufacturer or, as is more generally the case, the wool dealer.

OVERCOATING: Any woolen fabric which weighs 18 or more ounces per yard may be classed as overcoating. Some overcoating fabric will range from 25 to 32 ounces per yard in weight.

OVERFINE WOOL: Wool that is too dry, lifeless, and tender for its regular quality rating.

OVERGROWN WOOL: Wool with an over-length staple for its particular classification.

OVERPLAID: In reality a double plaid. This is a cloth in which the weave or, more often, the color effect is arranged in blocks of the same or different sizes, one over the other. Again, the cloth may show a plaid design on a checked ground construction. This effect is noted in English mufti and in golf togs, neat business woolens and worsteds in morning, lounge

Steps in Processing and Manufacturing of Wool and Worsted Cloth



Loom operator searching for broken threads.



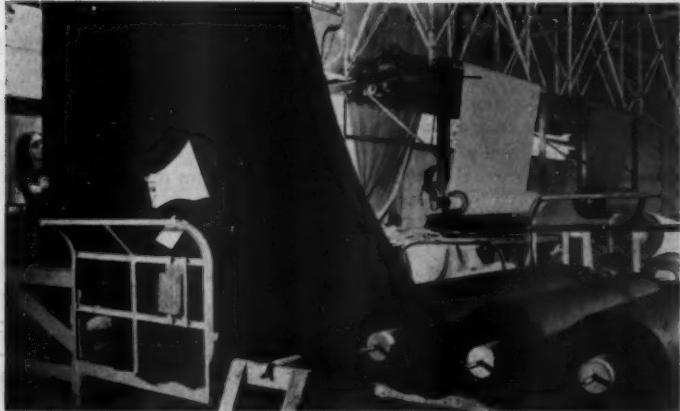
Crutching Sheep — (Photos courtesy I.W.S.)



Carding room overseer is shown above testing rovings by weighing skein cut to standard length.



Winding strands of yarn on black card to check uniformity.



Final inspection of woolens before shipping.



Operator, dressing a beam, pulls yarns through the stops which will automatically stop loom if strand of warp breaks.

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and semi-formal wear. This cloth goes under the name, sometimes, of Glen Urquhart, the name of the Scottish clan that is given credit for bringing this type cloth to the fore. Urquharts are usually light or medium in weight, running from nine to thirteen ounces. Two, three or more colors are used in designing the patterns. Overplaids are ideal for travel as they do not show the dirt as readily as other cloths, generally speaking. Uses of the cloth as overcoating and topcoating are considerable. Overplaids are now out of the so-called cycle range with regard to popularity; they are considered as genuine staple cloths and, at times, are extremely popular with consumers.

OVER-WIDTH: Fabric that is too wide for easy manipulation. Extra washing and shrinking may bring cloth to the proper width.

OXFORD MIXTURE: Usually a color effect in dark gray noted in woolens and worsteds. The degree of shade is governed by the mixed percentages of black and white stocks used. Mixing takes place prior to the carding and spinning of the yarn. Its reference to Oxford, England, has suggested calling the lighter weight mixture cloths by the name of Cambridge, the rival university of Oxford. Oxford and Cambridge are the two oldest universities in England and are known all over the world. The colors of the schools are dark blue and light blue respectively. Hence the use of dark and light Oxfords or grays under those two names. In this country much gray cloth is given the name of Oxford.

OXFORD SHEEP: The largest of English Down breeds of sheep, Oxford gives a staple fleece length of 3 to 4 inches with some extra-length fibers. Shearing from 10 to 12 pounds of wool, the shrinkage is about 30 percent. The breed is popular in the Middle West.

OXO WOOL: A flax substitute used for wool at times.



PACK: 1. A 240-pound measure (British) for worsted top and flax. 2. A 60,000 yard measure for linen yarn.

PACK MOTH: The *Anacampsis sarcitello* moth whose larva is very destructive to wool fibers.

PACO: Another name for alpaca.

PACO-LLAMA: Foal of alpaca sire and llama dam.

PACO-VICUNA: Foal of alpaca sire and vicuna dam.

PADDOCK: British worsted fabric made with a 2-up and 1-down twill and used for light overcoating and topcoats; is somewhat on the order of gabardine and has about the same uses, particularly used for raincoating when made water-repellent.

PAHANG: The Malay States produce this breed of sheep known for its harsh, coarse, short staple fiber. Incidentally, the animals weigh about 25 pounds but are sturdy in build.

PAISLEY CLOTH: 1. Originated in the Scottish city of that name. It is a distinctive material made of worsted yarn. Scroll designs cover the surface of the goods; colors run from red to brown and orange shades. Small spots of other colors are interspersed to bring about a more brilliant motif. The cloth is popular for coverings, shawls and throws. The mixture of colors used makes this Jacquard cloth a characteristic fabric.

2. Silk or rayon cloth made to imitate the designs seen on woolen or worsted Paisley cloth. It is used for blouses, dresses, kerchiefs and trimming.

PAISLEY SHAWL: A fine quality worsted shawl made in Paisley, Scotland, in designs and colors similar to those of the genuine Cashmere shawls of India. At one time the shawl industry in Paisley was of considerable importance but changing fashions have affected it adversely.

PALLIUM: 1. A garment similar to the himation, and worn by Greek men and women over the chiton.

2. A white, woolen band in circular shape with pendants. It is worn by archbishops of the Roman Catholic Church on certain occasions.

PALM BEACH: Registered trade mark and name of Goodall-Sanford Mills, Inc., Sanford, Maine, associated with a summer suiting material ranging in weight from seven to ten ounces. Plain weave, cotton warp and mohair filling originally used but other combinations are now used to best serve the trade. Cloth is piece or skein dyed and given a clear finish. One of the most important staples in the textile trade.

PAMPA: Hardy sheep raised throughout South America which gives a long, straight, harsh, bright wool.

PANAMA: Summer suiting that ranges from ten to fifteen ounces in weight. Piece, yarn or skein dyed and made of cotton warp and worsted filling although other combinations are resorted to from time to time. Plain weave material. Cloth appears in solid shades and mixtures.

PANAMA SHEEP: Rapidly gaining in popularity in this country, this breed of sheep was developed in Idaho by crossing pure-bred Rambouillet with selected Lincoln ewes. The wool grades 56s to 60s in quality, and is of combing length. Panama shows an improved quality wool and mutton conformation.

PAPERMAKER'S FELT: Made from the best merino wool this endless woolen fabric with a characteristic blanket finish is used in the manufacture of paper and on newspaper presses.

PARALLELING: To cause strands or fibers to lie even and straight after some machine operation, such as combing or drawing.

PARAMATTA: Somewhat on the order of Coburg fabric, the material is made of cotton warp and fine wool yarn filling. A 1-up and 2-down weave is used in this dressgoods fabric. There are about twice as many ends as filling per inch in the texture.

PARM-NARM: Ibex wool, a type of pashmina, furnishes the raw material for this fine, soft, expensive shawl and dressgoods fabric.

PASHIM (PASHMINA, PASHM, PUSHMINA): The fine downy hair of the goats raised in Kashmir and other northern India provinces. The hair is cut from the animal once a year and the soft pashim or remaining down fibers are combed out, separated and graded by hand.

The wild goats give a black or gray hair known as shabri. If the hair is taken from the older animals, it is white or silver gray and is called shah-tush.

Domesticated goats yield the best quality hair which is known as turfani pashim or phum. The best shawls are made from these fibers.

PATENT AXMINSTER: A power-loomed, cut-pile carpet made with double filling.

PATTERN Warp: Synonymous with blanket range.

PATU, PATTU: Homespun or tweed of East Indian origin which is used as a shawl or throw.

PEA JACKET: Originally made of harsh, strong wool the garment was worn by Dutch seamen; now an important item in naval circles. Our navy issues the well-known pea jacket which is of reefer length and gives much warmth. Usually dyed blue, garment may be made from melton, kersey, etc.

PEAU de MOUTON: An imitation sheepskin cloth made of worsted or high grade woolen yarn on twill weaves. The curled-pile finish makes the fabric desirable for ladies' coatings.

PEAU D'OURS: A French overcoating cloth with a long, shaggy face finish to simulate the hair of a bear.

PEAU DE SUEDE: Check-plaid designs feature this woolen dress fabric which has a napped finish on the order of suede.

PEBBLE CHEVIOT: Overcoating material that runs from sixteen to twenty-five ounces per yard. Made of twill weaves, piece dyed and cloth has a shaggy, nubby, curly appearance in finished state. Wool or worsted, alone or in combination, used in making the material which is a staple cloth and has waves of popularity from time to time.

PECORA DELLE LANGHE: An Italian sheep breed known for its poor wool staple; the sheep, however, are excellent milkers.

PELADE: French term for wool pulled from slaughtered sheep in Egypt, Syria and adjacent areas.

PELAGE: French for the coat or covering of an animal of the mammal variety such as sheep, fur-bearing animals, alpaca, llama, etc.

PELOTAGE HAIR: The lowest grade of hair obtained from the vicuna.

PELT: The raw hide or undressed skin of the sheep with the wool still attached to it.

PELT WOOL: 1. Short wool taken from the pelts of sheep which have been killed within three months of shearing.

2. Wool from the pelts of slaughtered sheep. It is obtained in the slaughter houses where the carcass of the sheep is more important than the wool; the fleece is a by-product. See Pulled Wool.

PELUCHE: French for plush.

PENCIL STRIPES: Suiting fabric which has fine, light, white or tinted stripes running in the warp direction. The body of the material is usually dull or dark in color, and the contrast shows up well in the finished goods.

PEPPER AND SALT: Apparel material of fine, speckled effect. The appearance of the cloth suggests a mixture of salt and pepper. Cloth is made in shades of gray, brown, green and blue. The effect is obtained by the use of two-colored twisted yarns, ordinarily in black and white or by the intricacy of the weave with two or more solid color yarns.

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PERCHING: Cloth, after it is taken from the loom, goes to the percher, who is usually an experienced weaver. He can detect at once all kinds of blemishes. He gets slightly more in wages than the regular weavers. The perch, itself, is made of three parts — two upright posts with a roller cross bar that revolves. This arrangement is similar to the uprights and cross bar on a football gridiron.

The percher stands so that the north light will be accessible. The cut of cloth to be perched is thrown over the roller bar and has been led from a roller wagon that is in back of the percher. The cloth, after leaving the roller and having been marked off as to defects, goes into an empty wagon that is in front of the percher. Thus, the position of the percher is such that he can readily look through the cloth with the aid of the north light, and in that way, all the defects are readily noted and marked by him with chalk.

These chalk marks will attract the attention, in the Dry Finishing room, of the speckers, menders, and burlers. They will fix as many of the blemishes as they can. What they cannot remedy, is taken care of by the sewers, and experienced sewers. When the cloth leaves the sewers, it is ready for the wet finishing operations, and the material is as perfect in construction as is possible to have it.

Defects caught in perching include wrong filling bobbin, ends or picks out, rolling or cut selvage, selvage ends out, dead colors, harness skips, swollen or skipped denti that cause reed marks, wrong draws, specky goods, uneven double and twist.

PERPETUANA: An old-time woolen fabric identified by the glossy finish which is still used in rural sections of the world for coating fabric and men's and women's suiting. The cloth is made in single colors, usually drab in effect despite the finish.

PERSIAN KNOT: Sometimes known as the Senna Knot, it is one of the two knots used to tie-in the pile effect in Oriental rugs. A loop is formed around the warp end and is made fast by being pulled into place so that the pile will be spaces between all warp threads. See Ghiordes Knot.

PERSIAN LAMB: The best grades of Karakul lambskins; they have very pronounced, uniform, tight curls. The term, Persian, was given to these lambs for the reason that at one time all skins found their way to the European markets from Persia. The impression prevailed that all the skins were produced there.

Black, gray or brown are the predominating colors when the skins appear in fur garments. Wearing quality is superb. The skin or the garment is judged by the tightness of the curl and the luster of the hair. Found in Afghanistan, Africa, Russia, Siberia.

Cross Persian lamb is a term applied loosely to lambs not of the Persian group but having some of its characteristics.

PERSIAN RUGS: These rugs, which should be made in Iran, are the nearest to perfection from the angle of loom technique, actual weaving and work. Floral patterns, mosaic designs, and splendid backgrounds are characteristics of these highly sought rugs. Persians have a fine, even texture; clever, intricate designs, and excellent color harmony effects. Leading Persians include Bijar, Djushaghen, Feraghan, Gorevan, Hamadan, Herat, Herez, Ispham, Kara-Dagh, Kermanshah, Khorassan, Kir-

man, Kurdistan, Mahal, Meshed, Mosul, Muskabad, Sarabend, Sarak, Sarouk, Savalan, Sehma, Serapi, Shiraz, Suj-Boulak, Tabriz.

PETERSHAM: 1. A rough-napped, rather bulky woolen cloth used in maritime circles and in men's heavy overcoating. It has the same uses as reefers, ulsters, and sailors' pea jackets.

2. A ribbon material with cord or bengaline stripes which is used for inner belts, hat bands, and trimming.

3. A narrow braid or belting used for skirt tops.

PICK: A filling thread or yarn that runs crosswise or horizontally in the woven goods.

PICK-AND-PICK: The throwing of single picks of different colors through the shed of the loom in weaving.

PICK-AT-WILL: Box-loom weaving which means that the loom is so constructed that the picking arrangement of colors can be manipulated at will to give fancy effects in the fabric.

PICK CLOCK: An automatic counting device attached to the loom that registers the number of filling picks woven into a piece of cloth. Incidentally, weavers may be paid at the rate of "so many mills per pick".

PICK GLASS: A single or double lens glass used in analyzing and dissecting cloth. Comes in $\frac{1}{4}$ inch, $\frac{1}{2}$ inch and 1 and 2 inch sizes. For good results, a one-inch glass should be used. The device is hinged so that it may be readily folded up. Also known as a counting-glass or linen-tester.

PICK FINDING: The process of letting-up or turning-back the warp in the loom and picking out the few picks that have been woven after a mispick or some other blemish has occurred. After the mispick has been remedied, the warp is made taut, and the loom is ready for setting and continued weaving.

PICKERED: Clumpy, cotty or matted fleeces which have to be opened up by the wool picker machine.

PICKINGS: 1. Batches of short wool which have excessive amounts of dry vegetable matter.

2. Totally undesirable cotton obtained from country-damaged cotton bales.

PICKLOCK: A term in grading wool that signifies the stock as XX or even better. Also implies the "pick-of-the-lock or fleece." There is, in reality, no picklock today, except in some of the more or less isolated sections in the back country of some of the mountainous states. West Virginia, Tennessee, Kentucky and a few other states grow some of this wool which is used in home consumption.

PIECE DYED CLOTH: Any material that has been dyed some solid color or shade. One of the group of the three greatest methods of dyeing — piece, stock and yarn or skein dyeing.

PIECE GOODS: General term for all materials in lengths from about one yard, upwards.

(Continued in AMERICAN FABRICS, Issue No. 7)

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It's not done with rubber. It's not done with chemicals. It's all in the construction: that exclusive double-knit, lock-stitch construction which makes this wonderful fabric compact and elastic at the same time; and gives it soft draping qualities besides. That's how ELASTA-Q gets the stability as well as elasticity.

1. S-T-R-E-T-C-H-E-S with the greatest of ease—springs back into perfect shape.
2. Combines elastic action with graceful draping qualities.
3. Does not lose its elasticity in laundering.
4. Moldes the figure; makes you feel firm and compact.
5. Double-knit, lock-stitch construction prevents runs or sagging.
6. Has no reverse side . . . it's faced.
7. Takes and retains its shape.



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It's akin to magic . . . the way it glides up and down . . . down and up . . .

with never a hitch or flaw to mar its quick, smooth action.

It took years of patient research and engineering skill to produce
the action of Conmar zippers . . . to bring about the quick, silent
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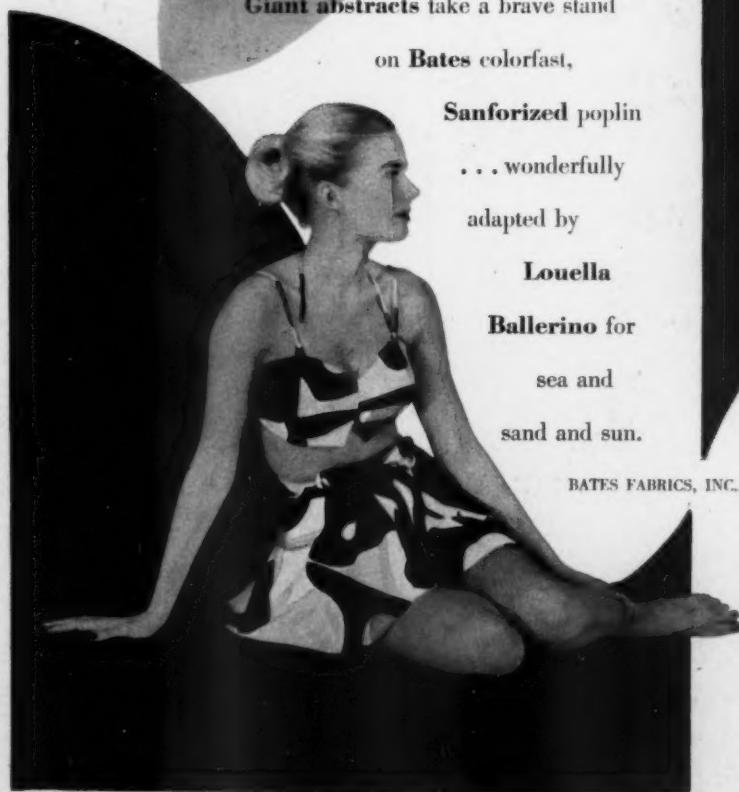
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